

## CORRECTED VERSION

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
11 October 2001 (11.10.2001)

PCT

(10) International Publication Number  
WO 01/075067 A3

- (51) International Patent Classification<sup>7</sup>: C12N 15/00, 15/12
- (74) Agent: ELRIFI, Ivor, R.; Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., One Financial Center, Boston, MA 02111 (US).
- (21) International Application Number: PCT/US01/08631
- (22) International Filing Date: 30 March 2001 (30.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
09/540,217 31 March 2000 (31.03.2000) US  
09/649,167 23 August 2000 (23.08.2000) US
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier applications:  
US 09/540,217 (CIP)  
Filed on 31 March 2000 (31.03.2000)  
US 09/649,167 (CIP)  
Filed on 23 August 2000 (23.08.2000)
- (71) Applicant (*for all designated States except US*): HYSEQ, INC. [US/US]; 670 Almanor Avenue, Sunnyvale, CA 94086 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): DRMANAC, Rodoje, T. [YU/US]; 850 East Greenwich Place, Palo Alto, CA 94303 (US). LIU, Chenghua [CN/US]; 1125 Ranchero Way, Apt. #14, San Jose, CA 95117 (US). TANG, Y., Tom [US/US]; 4230 Ranwick Court, San Jose, CA 95118 (US).
- (88) Date of publication of the international search report: 4 April 2002
- (48) Date of publication of this corrected version: 31 October 2002
- (15) Information about Correction:  
see PCT Gazette No. 44/2002 of 31 October 2002, Section II
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

(57) Abstract: The present invention provides novel nucleic acids, novel polypeptide sequences encoded by these nucleic acids and uses thereof.

WO 01/075067 A3

## NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

### 1. TECHNICAL FIELD

The present invention provides novel polynucleotides and proteins encoded by such polynucleotides, along with uses for these polynucleotides and proteins, for example in therapeutic, diagnostic and research methods.

### 2. BACKGROUND

Technology aimed at the discovery of protein factors (including *e.g.*, cytokines, such as lymphokines, interferons, CSFs, chemokines, and interleukins) has matured rapidly over the past decade. The now routine hybridization cloning and expression cloning techniques clone novel polynucleotides "directly" in the sense that they rely on information directly related to the discovered protein (*i.e.*, partial DNA/amino acid sequence of the protein in the case of hybridization cloning; activity of the protein in the case of expression cloning). More recent "indirect" cloning techniques such as signal sequence cloning, which isolates DNA sequences based on the presence of a now well-recognized secretory leader sequence motif, as well as various PCR-based or low stringency hybridization-based cloning techniques, have advanced the state of the art by making available large numbers of DNA/amino acid sequences for proteins that are known to have biological activity, for example, by virtue of their secreted nature in the case of leader sequence cloning, by virtue of their cell or tissue source in the case of PCR-based techniques, or by virtue of structural similarity to other genes of known biological activity.

Identified polynucleotide and polypeptide sequences have numerous applications in, for example, diagnostics, forensics, gene mapping; identification of mutations responsible for genetic disorders or other traits, to assess biodiversity, and to produce many other types of data and products dependent on DNA and amino acid sequences.

### 3. SUMMARY OF THE INVENTION

The compositions of the present invention include novel isolated polypeptides, novel isolated polynucleotides encoding such polypeptides, including recombinant DNA molecules, cloned genes or degenerate variants thereof, especially naturally occurring variants such as allelic variants, antisense polynucleotide molecules, and antibodies that specifically recognize one or more epitopes present on such polypeptides, as well as hybridomas producing such antibodies.

The compositions of the present invention additionally include vectors, including expression vectors, containing the polynucleotides of the invention, cells genetically engineered to contain such polynucleotides and cells genetically engineered to express such polynucleotides.

The present invention relates to a collection or library of at least one novel nucleic acid sequence assembled from expressed sequence tags (ESTs) isolated mainly by sequencing by hybridization (SBH), and in some cases, sequences obtained from one or more public databases. The invention relates also to the proteins encoded by such polynucleotides, along with therapeutic, diagnostic and research utilities for these polynucleotides and proteins. These nucleic acid sequences are designated as SEQ ID NO: 1-30368. The polypeptides sequences are designated SEQ ID NO: 30369-60736. The nucleic acids and polypeptides are provided in the Sequence Listing. In the nucleic acids provided in the Sequence Listing, A is adenosine; C is cytosine; G is guanine; T is thymine; and N is any of the four bases. In the amino acids provided in the Sequence Listing, \* corresponds to the stop codon.

The nucleic acid sequences of the present invention also include, nucleic acid sequences that hybridize to the complement of SEQ ID NO: 1-30368 under stringent hybridization conditions; nucleic acid sequences which are allelic variants or species homologues of any of the nucleic acid sequences recited above, or nucleic acid sequences that encode a peptide comprising a specific domain or truncation of the peptides encoded by SEQ ID NO: 1-30368. A polynucleotide comprising a nucleotide sequence having at least 90% identity to an identifying sequence of SEQ ID NO: 1-30368 or a degenerate variant or fragment thereof. The identifying sequence can be 100 base pairs in length.

The nucleic acid sequences of the present invention also include the sequence information from the nucleic acid sequences of SEQ ID NO: 1-30368. The sequence information can be a segment of any one of SEQ ID NO: 1-30368 that uniquely identifies or represents the sequence information of SEQ ID NO: 1-30368.

A collection as used in this application can be a collection of only one polynucleotide. The collection of sequence information or identifying information of each sequence can be provided on a nucleic acid array. In one embodiment, segments of sequence information is provided on a nucleic acid array to detect the polynucleotide that contains the segment. The array can be designed to detect full-match or mismatch to the polynucleotide that contains the segment. The collection can also be provided in a computer-readable format.

This invention also includes the reverse or direct complement of any of the nucleic acid sequences recited above; cloning or expression vectors containing the nucleic acid sequences; and host cells or organisms transformed with these expression vectors. Nucleic acid sequences (or their reverse or direct complements) according to the invention have numerous applications in a variety of techniques known to those skilled in the art of molecular biology, such as use as hybridization probes, use as primers for PCR, use in an array, use in computer-readable media, use in sequencing

full-length genes, use for chromosome and gene mapping, use in the recombinant production of protein, and use in the generation of anti-sense DNA or RNA, their chemical analogs and the like.

In a preferred embodiment, the nucleic acid sequences of SEQ ID NO: 1-30368 or novel segments or parts of the nucleic acids of the invention are used as primers in expression assays that are well known in the art. In a particularly preferred embodiment, the nucleic acid sequences of SEQ ID NO: 1-30368 or novel segments or parts of the nucleic acids provided herein are used in diagnostics for identifying expressed genes or, as well known in the art and exemplified by Vollrath et al., *Science* 258:52-59 (1992), as expressed sequence tags for physical mapping of the human genome.

The isolated polynucleotides of the invention include, but are not limited to, a polynucleotide comprising any one of the nucleotide sequences set forth in SEQ ID NO: 1-30368; a polynucleotide comprising any of the full length protein coding sequences of SEQ ID NO: 1-30368; and a polynucleotide comprising any of the nucleotide sequences of the mature protein coding sequences of SEQ ID NO: 1-30368. The polynucleotides of the present invention also include, but are not limited to, a polynucleotide that hybridizes under stringent hybridization conditions to (a) the complement of any one of the nucleotide sequences set forth in SEQ ID NO: 1-30368; (b) a nucleotide sequence encoding any one of the amino acid sequences set forth in the Sequence Listing (*e.g.*, SEQ ID NO: 30369-60736); (c) a polynucleotide which is an allelic variant of any polynucleotides recited above; (d) a polynucleotide which encodes a species homolog (*e.g.* orthologs) of any of the proteins recited above; or (e) a polynucleotide that encodes a polypeptide comprising a specific domain or truncation of any of the polypeptides comprising an amino acid sequence set forth in the Sequence Listing.

The isolated polypeptides of the invention include, but are not limited to, a polypeptide comprising any of the amino acid sequences set forth in the Sequence Listing; or the corresponding full length or mature protein. Polypeptides of the invention also include polypeptides with biological activity that are encoded by (a) any of the polynucleotides having a nucleotide sequence set forth in SEQ ID NO: 1-30368; or (b) polynucleotides that hybridize to the complement of the polynucleotides of (a) under stringent hybridization conditions. Biologically or immunologically active variants of any of the polypeptide sequences in the Sequence Listing, and "substantial equivalents" thereof (*e.g.*, with at least about 65%, 70%, 75%, 80%, 85%, 90%, 95%, 98% or 99% amino acid sequence identity) that preferably retain biological activity are also contemplated. The polypeptides of the invention may be wholly or partially chemically synthesized but are preferably produced by recombinant means using the genetically engineered cells (*e.g.* host cells) of the invention.



The invention also provides compositions comprising a polypeptide of the invention. Polypeptide compositions of the invention may further comprise an acceptable carrier, such as a hydrophilic, *e.g.*, pharmaceutically acceptable, carrier.

5 The invention also provides host cells transformed or transfected with a polynucleotide of the invention.

The invention also relates to methods for producing a polypeptide of the invention comprising growing a culture of the host cells of the invention in a suitable culture medium under conditions permitting expression of the desired polypeptide, and purifying the polypeptide from the culture or from the host cells. Preferred embodiments include those in which the  
10 protein produced by such process is a mature form of the protein.

Polynucleotides according to the invention have numerous applications in a variety of techniques known to those skilled in the art of molecular biology. These techniques include use as hybridization probes, use as oligomers, or primers, for PCR, use for chromosome and gene mapping, use in the recombinant production of protein, and use in generation of anti-sense DNA  
15 or RNA, their chemical analogs and the like. For example, when the expression of an mRNA is largely restricted to a particular cell or tissue type, polynucleotides of the invention can be used as hybridization probes to detect the presence of the particular cell or tissue mRNA in a sample using, *e.g.*, *in situ* hybridization.

In other exemplary embodiments, the polynucleotides are used in diagnostics as  
20 expressed sequence tags for identifying expressed genes or, as well known in the art and exemplified by Vollrath et al., Science 258:52-59 (1992), as expressed sequence tags for physical mapping of the human genome.

The polypeptides according to the invention can be used in a variety of conventional procedures and methods that are currently applied to other proteins. For example, a polypeptide  
25 of the invention can be used to generate an antibody that specifically binds the polypeptide. Such antibodies, particularly monoclonal antibodies, are useful for detecting or quantitating the polypeptide in tissue. The polypeptides of the invention can also be used as molecular weight markers, and as a food supplement.

Methods are also provided for preventing, treating, or ameliorating a medical condition  
30 which comprises the step of administering to a mammalian subject a therapeutically effective amount of a composition comprising a polypeptide of the present invention and a pharmaceutically acceptable carrier.

In particular, the polypeptides and polynucleotides of the invention can be utilized, for example, in methods for the prevention and/or treatment of disorders involving aberrant protein  
35 expression or biological activity.

The present invention further relates to methods for detecting the presence of the polynucleotides or polypeptides of the invention in a sample. Such methods can, for example, be utilized as part of prognostic and diagnostic evaluation of disorders as recited herein and for the identification of subjects exhibiting a predisposition to such conditions. The invention provides a method for detecting the polynucleotides of the invention in a sample, comprising contacting the sample with a compound that binds to and forms a complex with the polynucleotide of interest for a period sufficient to form the complex and under conditions sufficient to form a complex and detecting the complex such that if a complex is detected, the polynucleotide of interest is detected. The invention also provides a method for detecting the polypeptides of the invention in a sample comprising contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex and detecting the formation of the complex such that if a complex is formed, the polypeptide is detected.

The invention also provides kits comprising polynucleotide probes and/or monoclonal antibodies, and optionally quantitative standards, for carrying out methods of the invention. Furthermore, the invention provides methods for evaluating the efficacy of drugs, and monitoring the progress of patients, involved in clinical trials for the treatment of disorders as recited above.

The invention also provides methods for the identification of compounds that modulate (*i.e.*, increase or decrease) the expression or activity of the polynucleotides and/or polypeptides of the invention. Such methods can be utilized, for example, for the identification of compounds that can ameliorate symptoms of disorders as recited herein. Such methods can include, but are not limited to, assays for identifying compounds and other substances that interact with (*e.g.*, bind to) the polypeptides of the invention. The invention provides a method for identifying a compound that binds to the polypeptides of the invention comprising contacting the compound with a polypeptide of the invention in a cell for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and detecting the complex by detecting the reporter gene sequence expression such that if expression of the reporter gene is detected the compound that binds to a polypeptide of the invention is identified.

The methods of the invention also provides methods for treatment which involve the administration of the polynucleotides or polypeptides of the invention to individuals exhibiting symptoms or tendencies. In addition, the invention encompasses methods for treating diseases or disorders as recited herein comprising administering compounds and other substances that modulate the overall activity of the target gene products. Compounds and other substances can

effect such modulation either on the level of target gene/protein expression or target protein activity.

The polypeptides of the present invention and the polynucleotides encoding them are also useful for the same functions known to one of skill in the art as the polypeptides and polynucleotides to which they have homology (set forth in the sequence listing). If no homology is set forth for a sequence, then the polypeptides and polynucleotides of the present invention are useful for a variety of applications, as described herein, including use in arrays for detection.

## 4. DETAILED DESCRIPTION OF THE INVENTION

### 4.1 DEFINITIONS

It must be noted that as used herein and in the appended claims, the singular forms "a", "an" and "the" include plural references unless the context clearly dictates otherwise.

The term "active" refers to those forms of the polypeptide which retain the biologic and/or immunologic activities of any naturally occurring polypeptide. According to the invention, the terms "biologically active" or "biological activity" refer to a protein or peptide having structural, regulatory or biochemical functions of a naturally occurring molecule. Likewise "immunologically active" or "immunological activity" refers to the capability of the natural, recombinant or synthetic polypeptide to induce a specific immune response in appropriate animals or cells and to bind with specific antibodies.

The term "activated cells" as used in this application are those cells which are engaged in extracellular or intracellular membrane trafficking, including the export of secretory or enzymatic molecules as part of a normal or disease process.

The terms "complementary" or "complementarity" refer to the natural binding of polynucleotides by base pairing. For example, the sequence 5'-AGT-3' binds to the complementary sequence 3'-TCA-5'. Complementarity between two single-stranded molecules may be "partial" such that only some of the nucleic acids bind or it may be "complete" such that total complementarity exists between the single stranded molecules. The degree of complementarity between the nucleic acid strands has significant effects on the efficiency and strength of the hybridization between the nucleic acid strands.

The term "embryonic stem cells (ES)" refers to a cell that can give rise to many differentiated cell types in an embryo or an adult, including the germ cells. The term "germ line stem cells (GSCs)" refers to stem cells derived from primordial stem cells that provide a steady and continuous source of germ cells for the production of gametes. The term "primordial germ

cells (PGCs)" refers to a small population of cells set aside from other cell lineages particularly from the yolk sac, mesenteries, or gonadal ridges during embryogenesis that have the potential to differentiate into germ cells and other cells. PGCs are the source from which GSCs and ES cells are derived. The PGCs, the GSCs and the ES cells are capable of self-renewal. Thus these cells not only populate the germ line and give rise to a plurality of terminally differentiated cells that comprise the adult specialized organs, but are able to regenerate themselves.

The term "expression modulating fragment," EMF, means a series of nucleotides which modulates the expression of an operably linked ORF or another EMF.

As used herein, a sequence is said to "modulate the expression of an operably linked sequence" when the expression of the sequence is altered by the presence of the EMF. EMFs include, but are not limited to, promoters, and promoter modulating sequences (inducible elements). One class of EMFs are nucleic acid fragments which induce the expression of an operably linked ORF in response to a specific regulatory factor or physiological event.

The terms "nucleotide sequence" or "nucleic acid" or "polynucleotide" or "oligonucleotide" are used interchangeably and refer to a heteropolymer of nucleotides or the sequence of these nucleotides. These phrases also refer to DNA or RNA of genomic or synthetic origin which may be single-stranded or double-stranded and may represent the sense or the antisense strand, to peptide nucleic acid (PNA) or to any DNA-like or RNA-like material. In the sequences herein A is adenine, C is cytosine, T is thymine, G is guanine and N is A, C, G or T (U). It is contemplated that where the polynucleotide is RNA, the T (thymine) in the sequences provided herein is substituted with U (uracil). Generally, nucleic acid segments provided by this invention may be assembled from fragments of the genome and short oligonucleotide linkers, or from a series of oligonucleotides, or from individual nucleotides, to provide a synthetic nucleic acid which is capable of being expressed in a recombinant transcriptional unit comprising regulatory elements derived from a microbial or viral operon, or a eukaryotic gene.

The terms "oligonucleotide fragment" or a "polynucleotide fragment", "portion," or "segment" or "probe" or "primer" are used interchangeably and refer to a sequence of nucleotide residues which are at least about 5 nucleotides, more preferably at least about 7 nucleotides, more preferably at least about 9 nucleotides, more preferably at least about 11 nucleotides and most preferably at least about 17 nucleotides. The fragment is preferably less than about 500 nucleotides, preferably less than about 200 nucleotides, more preferably less than about 100 nucleotides, more preferably less than about 50 nucleotides and most preferably less than 30 nucleotides. Preferably the probe is from about 6 nucleotides to about 200 nucleotides, preferably from about 15 to about 50 nucleotides, more preferably from about 17 to 30 nucleotides and most preferably from about 20 to 25 nucleotides. Preferably the fragments can

be used in polymerase chain reaction (PCR), various hybridization procedures or microarray procedures to identify or amplify identical or related parts of mRNA or DNA molecules. A fragment or segment may uniquely identify each polynucleotide sequence of the present invention. Preferably the fragment comprises a sequence substantially similar to any one of SEQ ID NO: 1-30368.

Probes may, for example, be used to determine whether specific mRNA molecules are present in a cell or tissue or to isolate similar nucleic acid sequences from chromosomal DNA as described by Walsh et al. (Walsh, P.S. et al., 1992, PCR Methods Appl 1:241-250). They may be labeled by nick translation, Klenow fill-in reaction, PCR, or other methods well known in the art. Probes of the present invention, their preparation and/or labeling are elaborated in Sambrook, J. et al., 1989, Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory, NY; or Ausubel, F.M. et al., 1989, Current Protocols in Molecular Biology, John Wiley & Sons, New York NY, both of which are incorporated herein by reference in their entirety.

The nucleic acid sequences of the present invention also include the sequence information from the nucleic acid sequences of SEQ ID NO: 1-30368. The sequence information can be a segment of any one of SEQ ID NO: 1-30368 that uniquely identifies or represents the sequence information of that sequence of SEQ ID NO: 1-30368. One such segment can be a twenty-mer nucleic acid sequence because the probability that a twenty-mer is fully matched in the human genome is 1 in 300. In the human genome, there are three billion base pairs in one set of chromosomes. Because  $4^{20}$  possible twenty-mers exist, there are 300 times more twenty-mers than there are base pairs in a set of human chromosomes. Using the same analysis, the probability for a seventeen-mer to be fully matched in the human genome is approximately 1 in 5. When these segments are used in arrays for expression studies, fifteen-mer segments can be used. The probability that the fifteen-mer is fully matched in the expressed sequences is also approximately one in five because expressed sequences comprise less than approximately 5% of the entire genome sequence.

Similarly, when using sequence information for detecting a single mismatch, a segment can be a twenty-five mer. The probability that the twenty-five mer would appear in a human genome with a single mismatch is calculated by multiplying the probability for a full match ( $1 \div 4^{25}$ ) times the increased probability for mismatch at each nucleotide position ( $3 \times 25$ ). The probability that an eighteen mer with a single mismatch can be detected in an array for expression studies is approximately one in five. The probability that a twenty-mer with a single mismatch can be detected in a human genome is approximately one in five.

The term "open reading frame," ORF, means a series of nucleotide triplets coding for amino acids without any termination codons and is a sequence translatable into protein.

The terms "operably linked" or "operably associated" refer to functionally related nucleic acid sequences. For example, a promoter is operably associated or operably linked with a coding sequence if the promoter controls the transcription of the coding sequence. While operably linked nucleic acid sequences can be contiguous and in the same reading frame, certain genetic elements *e.g.* repressor genes are not contiguously linked to the coding sequence but still control transcription/translation of the coding sequence.

The term "pluripotent" refers to the capability of a cell to differentiate into a number of differentiated cell types that are present in an adult organism. A pluripotent cell is restricted in its differentiation capability in comparison to a totipotent cell.

The terms "polypeptide" or "peptide" or "amino acid sequence" refer to an oligopeptide, peptide, polypeptide or protein sequence or fragment thereof and to naturally occurring or synthetic molecules. A polypeptide "fragment," "portion," or "segment" is a stretch of amino acid residues of at least about 5 amino acids, preferably at least about 7 amino acids, more preferably at least about 9 amino acids and most preferably at least about 17 or more amino acids. The peptide preferably is not greater than about 200 amino acids, more preferably less than 150 amino acids and most preferably less than 100 amino acids. Preferably the peptide is from about 5 to about 200 amino acids. To be active, any polypeptide must have sufficient length to display biological and/or immunological activity.

The term "naturally occurring polypeptide" refers to polypeptides produced by cells that have not been genetically engineered and specifically contemplates various polypeptides arising from post-translational modifications of the polypeptide including, but not limited to, acetylation, carboxylation, glycosylation, phosphorylation, lipidation and acylation.

The term "translated protein coding portion" means a sequence which encodes for the full length protein which may include any leader sequence or any processing sequence.

The term "mature protein coding sequence" means a sequence which encodes a peptide or protein without a signal or leader sequence. The "mature protein portion" means that portion of the protein which does not include a signal or leader sequence. The peptide may have been produced by processing in the cell which removes any leader/signal sequence. The mature protein portion may or may not include an initial methionine residue. The methionine residue may be removed from the protein during processing in the cell. The peptide may be produced synthetically or the protein may have been produced using a polynucleotide only encoding for the mature protein coding sequence.

The term "derivative" refers to polypeptides chemically modified by such techniques as ubiquitination, labeling (*e.g.*, with radionuclides or various enzymes), covalent polymer attachment such as pegylation (derivatization with polyethylene glycol) and insertion or substitution by chemical synthesis of amino acids such as ornithine, which do not normally occur in human proteins.

The term "variant"(or "analog") refers to any polypeptide differing from naturally occurring polypeptides by amino acid insertions, deletions, and substitutions, created using, *e.g.*, recombinant DNA techniques. Guidance in determining which amino acid residues may be replaced, added or deleted without abolishing activities of interest, may be found by comparing the sequence of the particular polypeptide with that of homologous peptides and minimizing the number of amino acid sequence changes made in regions of high homology (conserved regions) or by replacing amino acids with consensus sequence.

Alternatively, recombinant variants encoding these same or similar polypeptides may be synthesized or selected by making use of the "redundancy" in the genetic code. Various codon substitutions, such as the silent changes which produce various restriction sites, may be introduced to optimize cloning into a plasmid or viral vector or expression in a particular prokaryotic or eukaryotic system. Mutations in the polynucleotide sequence may be reflected in the polypeptide or domains of other peptides added to the polypeptide to modify the properties of any part of the polypeptide, to change characteristics such as ligand-binding affinities, interchain affinities, or degradation/turnover rate.

Preferably, amino acid "substitutions" are the result of replacing one amino acid with another amino acid having similar structural and/or chemical properties, *i.e.*, conservative amino acid replacements. "Conservative" amino acid substitutions may be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity, and/or the amphipathic nature of the residues involved. For example, nonpolar (hydrophobic) amino acids include alanine, leucine, isoleucine, valine, proline, phenylalanine, tryptophan, and methionine; polar neutral amino acids include glycine, serine, threonine, cysteine, tyrosine, asparagine, and glutamine; positively charged (basic) amino acids include arginine, lysine, and histidine; and negatively charged (acidic) amino acids include aspartic acid and glutamic acid. "Insertions" or "deletions" are preferably in the range of about 1 to 20 amino acids, more preferably 1 to 10 amino acids. The variation allowed may be experimentally determined by systematically making insertions, deletions, or substitutions of amino acids in a polypeptide molecule using recombinant DNA techniques and assaying the resulting recombinant variants for activity.

Alternatively, where alteration of function is desired, insertions, deletions or non-conservative alterations can be engineered to produce altered polypeptides. Such alterations

can, for example, alter one or more of the biological functions or biochemical characteristics of the polypeptides of the invention. For example, such alterations may change polypeptide characteristics such as ligand-binding affinities, interchain affinities, or degradation/turnover rate. Further, such alterations can be selected so as to generate polypeptides that are better suited for expression, scale up and the like in the host cells chosen for expression. For example, cysteine residues can be deleted or substituted with another amino acid residue in order to eliminate disulfide bridges.

The terms "purified" or "substantially purified" as used herein denotes that the indicated nucleic acid or polypeptide is present in the substantial absence of other biological macromolecules, *e.g.*, polynucleotides, proteins, and the like. In one embodiment, the polynucleotide or polypeptide is purified such that it constitutes at least 95% by weight, more preferably at least 99% by weight, of the indicated biological macromolecules present (but water, buffers, and other small molecules, especially molecules having a molecular weight of less than 1000 daltons, can be present).

The term "isolated" as used herein refers to a nucleic acid or polypeptide separated from at least one other component (*e.g.*, nucleic acid or polypeptide) present with the nucleic acid or polypeptide in its natural source. In one embodiment, the nucleic acid or polypeptide is found in the presence of (if anything) only a solvent, buffer, ion, or other component normally present in a solution of the same. The terms "isolated" and "purified" do not encompass nucleic acids or polypeptides present in their natural source.

The term "recombinant," when used herein to refer to a polypeptide or protein, means that a polypeptide or protein is derived from recombinant (*e.g.*, microbial, insect, or mammalian) expression systems. "Microbial" refers to recombinant polypeptides or proteins made in bacterial or fungal (*e.g.*, yeast) expression systems. As a product, "recombinant microbial" defines a polypeptide or protein essentially free of native endogenous substances and unaccompanied by associated native glycosylation. Polypeptides or proteins expressed in most bacterial cultures, *e.g.*, *E. coli*, will be free of glycosylation modifications; polypeptides or proteins expressed in yeast will have a glycosylation pattern in general different from those expressed in mammalian cells.

The term "recombinant expression vehicle or vector" refers to a plasmid or phage or virus or vector, for expressing a polypeptide from a DNA (RNA) sequence. An expression vehicle can comprise a transcriptional unit comprising an assembly of (1) a genetic element or elements having a regulatory role in gene expression, for example, promoters or enhancers, (2) a structural or coding sequence which is transcribed into mRNA and translated into protein, and (3) appropriate transcription initiation and termination sequences. Structural units intended for use



in yeast or eukaryotic expression systems preferably include a leader sequence enabling extracellular secretion of translated protein by a host cell. Alternatively, where recombinant protein is expressed without a leader or transport sequence, it may include an amino terminal methionine residue. This residue may or may not be subsequently cleaved from the expressed recombinant protein to provide a final product.

The term "recombinant expression system" means host cells which have stably integrated a recombinant transcriptional unit into chromosomal DNA or carry the recombinant transcriptional unit extrachromosomally. Recombinant expression systems as defined herein will express heterologous polypeptides or proteins upon induction of the regulatory elements linked to the DNA segment or synthetic gene to be expressed. This term also means host cells which have stably integrated a recombinant genetic element or elements having a regulatory role in gene expression, for example, promoters or enhancers. Recombinant expression systems as defined herein will express polypeptides or proteins endogenous to the cell upon induction of the regulatory elements linked to the endogenous DNA segment or gene to be expressed. The cells can be prokaryotic or eukaryotic.

The term "secreted" includes a protein that is transported across or through a membrane, including transport as a result of signal sequences in its amino acid sequence when it is expressed in a suitable host cell. "Secreted" proteins include without limitation proteins secreted wholly (*e.g.*, soluble proteins) or partially (*e.g.*, receptors) from the cell in which they are expressed. "Secreted" proteins also include without limitation proteins that are transported across the membrane of the endoplasmic reticulum. "Secreted" proteins are also intended to include proteins containing non-typical signal sequences (*e.g.* Interleukin-1 Beta, see Krasney, P.A. and Young, P.R. (1992) Cytokine 4(2):134 -143) and factors released from damaged cells (*e.g.* Interleukin-1 Receptor Antagonist, see Arend, W.P. et. al. (1998) Annu. Rev. Immunol. 16:27-55)

Where desired, an expression vector may be designed to contain a "signal or leader sequence" which will direct the polypeptide through the membrane of a cell. Such a sequence may be naturally present on the polypeptides of the present invention or provided from heterologous protein sources by recombinant DNA techniques.

The term "stringent" is used to refer to conditions that are commonly understood in the art as stringent. Stringent conditions can include highly stringent conditions (*i.e.*, hybridization to filter-bound DNA in 0.5 M NaHPO<sub>4</sub>, 7% sodium dodecyl sulfate (SDS), 1 mM EDTA at 65°C, and washing in 0.1X SSC/0.1% SDS at 68°C), and moderately stringent conditions (*i.e.*, washing in 0.2X SSC/0.1% SDS at 42°C). Other exemplary hybridization conditions are described herein in the examples.

In instances of hybridization of deoxyoligonucleotides, additional exemplary stringent hybridization conditions include washing in 6X SSC/0.05% sodium pyrophosphate at 37°C (for 14-base oligonucleotides), 48°C (for 17-base oligos), 55°C (for 20-base oligonucleotides), and 60°C (for 23-base oligonucleotides).

5 As used herein, "substantially equivalent" can refer both to nucleotide and amino acid sequences, for example a mutant sequence, that varies from a reference sequence by one or more substitutions, deletions, or additions, the net effect of which does not result in an adverse functional dissimilarity between the reference and subject sequences. Typically, such a substantially equivalent sequence varies from one of those listed herein by no more than about  
10 35% (*i.e.*, the number of individual residue substitutions, additions, and/or deletions in a substantially equivalent sequence, as compared to the corresponding reference sequence, divided by the total number of residues in the substantially equivalent sequence is about 0.35 or less). Such a sequence is said to have 65% sequence identity to the listed sequence. In one embodiment, a substantially equivalent, *e.g.*, mutant, sequence of the invention varies from a  
15 listed sequence by no more than 30% (70% sequence identity); in a variation of this embodiment, by no more than 25% (75% sequence identity); and in a further variation of this embodiment, by no more than 20% (80% sequence identity) and in a further variation of this embodiment, by no more than 10% (90% sequence identity) and in a further variation of this embodiment, by no more that 5% (95% sequence identity). Substantially equivalent, *e.g.*,  
20 mutant, amino acid sequences according to the invention preferably have at least 80% sequence identity with a listed amino acid sequence, more preferably at least 85% sequence identity, more preferably at least 90% sequence identity, more preferably at least 95% identity, more preferably at least 98% identity, and most preferably at least 99% identity. Substantially equivalent nucleotide sequences of the invention can have lower percent sequence identities, taking into  
25 account, for example, the redundancy or degeneracy of the genetic code. Preferably, nucleotide sequence has at least about 65% identity, more preferably at least about 75% identity, more preferably at least about 80% sequence identity, more preferably at least about 85% sequence identity, more preferably at least about 90% sequence identity, and most preferably at least about 95% identity, more preferably at least about 98% sequence identity, and most preferably at least  
30 about 99% sequence identity. For the purposes of the present invention, sequences having substantially equivalent biological activity and substantially equivalent expression characteristics are considered substantially equivalent. For the purposes of determining equivalence, truncation of the mature sequence (*e.g.*, via a mutation which creates a spurious stop codon) should be disregarded. Sequence identity may be determined, *e.g.*, using the Jotun Hein method (Hein, J.

(1990) Methods Enzymol. 183:626-645). Identity between sequences can also be determined by other methods known in the art, *e.g.* by varying hybridization conditions.

The term "totipotent" refers to the capability of a cell to differentiate into all of the cell types of an adult organism.

The term "transformation" means introducing DNA into a suitable host cell so that the DNA is replicable, either as an extrachromosomal element, or by chromosomal integration. The term "transfection" refers to the taking up of an expression vector by a suitable host cell, whether or not any coding sequences are in fact expressed. The term "infection" refers to the introduction of nucleic acids into a suitable host cell by use of a virus or viral vector.

As used herein, an "uptake modulating fragment," UMF, means a series of nucleotides which mediate the uptake of a linked DNA fragment into a cell. UMFs can be readily identified using known UMFs as a target sequence or target motif with the computer-based systems described below. The presence and activity of a UMF can be confirmed by attaching the suspected UMF to a marker sequence. The resulting nucleic acid molecule is then incubated with an appropriate host under appropriate conditions and the uptake of the marker sequence is determined. As described above, a UMF will increase the frequency of uptake of a linked marker sequence.

Each of the above terms is meant to encompass all that is described for each, unless the context dictates otherwise.

## 4.2 NUCLEIC ACIDS OF THE INVENTION

Nucleotide sequences of the invention are set forth in the Sequence Listing.

The isolated polynucleotides of the invention include a polynucleotide comprising the nucleotide sequences of SEQ ID NO: 1-30368; a polynucleotide encoding any one of the peptide sequences of SEQ ID NO: 30369-60736; and a polynucleotide comprising the nucleotide sequence encoding the mature protein coding sequence of the polypeptides of any one of SEQ ID NO: 30369-60736. The polynucleotides of the present invention also include, but are not limited to, a polynucleotide that hybridizes under stringent conditions to (a) the complement of any of the nucleotide sequences of SEQ ID NO: 1-30368; (b) nucleotide sequences encoding any one of the amino acid sequences set forth in the Sequence Listing; (c) a polynucleotide which is an allelic variant of any polynucleotide recited above; (d) a polynucleotide which encodes a species homolog of any of the proteins recited above; or (e) a polynucleotide that encodes a polypeptide comprising a specific domain or truncation of the polypeptides of SEQ ID NO: 30369-60736. Domains of interest may depend on the nature of the encoded polypeptide; *e.g.*, domains in receptor-like polypeptides include ligand-binding, extracellular, transmembrane, or cytoplasmic

domains, or combinations thereof; domains in immunoglobulin-like proteins include the variable immunoglobulin-like domains; domains in enzyme-like polypeptides include catalytic and substrate binding domains; and domains in ligand polypeptides include receptor-binding domains.

5           The polynucleotides of the invention include naturally occurring or wholly or partially synthetic DNA, *e.g.*, cDNA and genomic DNA, and RNA, *e.g.*, mRNA. The polynucleotides may include all of the coding region of the cDNA or may represent a portion of the coding region of the cDNA.

10           The present invention also provides genes corresponding to the cDNA sequences disclosed herein. The corresponding genes can be isolated in accordance with known methods using the sequence information disclosed herein. Such methods include the preparation of probes or primers from the disclosed sequence information for identification and/or amplification of genes in appropriate genomic libraries or other sources of genomic materials. Further 5' and 3' sequence can be obtained using methods known in the art. For example, full length cDNA or genomic DNA that  
15           corresponds to any of the polynucleotides of SEQ ID NO: 1-30368 can be obtained by screening appropriate cDNA or genomic DNA libraries under suitable hybridization conditions using any of the polynucleotides of SEQ ID NO: 1-30368 or a portion thereof as a probe. Alternatively, the polynucleotides of SEQ ID NO: 1-30368 may be used as the basis for suitable primer(s) that allow identification and/or amplification of genes in appropriate genomic DNA or cDNA libraries.

20           The nucleic acid sequences of the invention can be assembled from ESTs and sequences (including cDNA and genomic sequences) obtained from one or more public databases, such as dbEST, gbpr, and UniGene. The EST sequences can provide identifying sequence information, representative fragment or segment information, or novel segment information for the full-length gene.

25           The polynucleotides of the invention also provide polynucleotides including nucleotide sequences that are substantially equivalent to the polynucleotides recited above. Polynucleotides according to the invention can have, *e.g.*, at least about 65%, at least about 70%, at least about 75%, at least about 80%, 81%, 82%, 83%, 84%, more typically at least about 85%, 86%, 87%, 88%, 89%, more typically at least about 90%, 91%, 92%, 93%, 94%, and even more typically at  
30           least about 95%, 96%, 97%, 98%, 99%, sequence identity to a polynucleotide recited above.

          Included within the scope of the nucleic acid sequences of the invention are nucleic acid sequence fragments that hybridize under stringent conditions to any of the nucleotide sequences of SEQ ID NO: 1-30368, or complements thereof, which fragment is greater than about 5 nucleotides, preferably 7 nucleotides, more preferably greater than 9 nucleotides and most  
35           preferably greater than 17 nucleotides. Fragments of, *e.g.* 15, 17, or 20 nucleotides or more that

are selective for (*i.e.* specifically hybridize to any one of the polynucleotides of the invention) are contemplated. Probes capable of specifically hybridizing to a polynucleotide can differentiate polynucleotide sequences of the invention from other polynucleotide sequences in the same family of genes or can differentiate human genes from genes of other species, and are preferably based on unique nucleotide sequences.

The sequences falling within the scope of the present invention are not limited to these specific sequences, but also include allelic and species variations thereof. Allelic and species variations can be routinely determined by comparing the sequence provided in SEQ ID NO: 1-30368, a representative fragment thereof, or a nucleotide sequence at least 90% identical, preferably 95% identical, to SEQ ID NO: 1-30368 with a sequence from another isolate of the same species. Furthermore, to accommodate codon variability, the invention includes nucleic acid molecules coding for the same amino acid sequences as do the specific ORFs disclosed herein. In other words, in the coding region of an ORF, substitution of one codon for another codon that encodes the same amino acid is expressly contemplated.

The nearest neighbor or homology result for the nucleic acids of the present invention, including SEQ ID NO: 1-30368 can be obtained by searching a database using an algorithm or a program. Preferably, a BLAST which stands for Basic Local Alignment Search Tool is used to search for local sequence alignments (Altshul, S.F. J Mol. Evol. 36 290-300 (1993) and Altschul S.F. et al. J. Mol. Biol. 21:403-410 (1990)). Alternatively a FASTA version 3 search against Genpept, using Fastxy algorithm.

Species homologs (or orthologs) of the disclosed polynucleotides and proteins are also provided by the present invention. Species homologs may be isolated and identified by making suitable probes or primers from the sequences provided herein and screening a suitable nucleic acid source from the desired species.

The invention also encompasses allelic variants of the disclosed polynucleotides or proteins; that is, naturally occurring alternative forms of the isolated polynucleotide which also encode proteins which are identical, homologous or related to that encoded by the polynucleotides.

The nucleic acid sequences of the invention are further directed to sequences which encode variants of the described nucleic acids. These amino acid sequence variants may be prepared by methods known in the art by introducing appropriate nucleotide changes into a native or variant polynucleotide. There are two variables in the construction of amino acid sequence variants: the location of the mutation and the nature of the mutation. Nucleic acids encoding the amino acid sequence variants are preferably constructed by mutating the polynucleotide to encode an amino acid sequence that does not occur in nature. These nucleic

acid alterations can be made at sites that differ in the nucleic acids from different species (variable positions) or in highly conserved regions (constant regions). Sites at such locations will typically be modified in series, *e.g.*, by substituting first with conservative choices (*e.g.*, hydrophobic amino acid to a different hydrophobic amino acid) and then with more distant choices (*e.g.*, hydrophobic amino acid to a charged amino acid), and then deletions or insertions may be made at the target site. Amino acid sequence deletions generally range from about 1 to 30 residues, preferably about 1 to 10 residues, and are typically contiguous. Amino acid insertions include amino- and/or carboxyl-terminal fusions ranging in length from one to one hundred or more residues, as well as intrasequence insertions of single or multiple amino acid residues. Intrasequence insertions may range generally from about 1 to 10 amino residues, preferably from 1 to 5 residues. Examples of terminal insertions include the heterologous signal sequences necessary for secretion or for intracellular targeting in different host cells and sequences such as FLAG or poly-histidine sequences useful for purifying the expressed protein.

In a preferred method, polynucleotides encoding the novel amino acid sequences are changed via site-directed mutagenesis. This method uses oligonucleotide sequences to alter a polynucleotide to encode the desired amino acid variant, as well as sufficient adjacent nucleotides on both sides of the changed amino acid to form a stable duplex on either side of the site of being changed. In general, the techniques of site-directed mutagenesis are well known to those of skill in the art and this technique is exemplified by publications such as, Edelman et al., *DNA* 2:183 (1983). A versatile and efficient method for producing site-specific changes in a polynucleotide sequence was published by Zoller and Smith, *Nucleic Acids Res.* 10:6487-6500 (1982). PCR may also be used to create amino acid sequence variants of the novel nucleic acids. When small amounts of template DNA are used as starting material, primer(s) that differs slightly in sequence from the corresponding region in the template DNA can generate the desired amino acid variant. PCR amplification results in a population of product DNA fragments that differ from the polynucleotide template encoding the polypeptide at the position specified by the primer. The product DNA fragments replace the corresponding region in the plasmid and this gives a polynucleotide encoding the desired amino acid variant.

A further technique for generating amino acid variants is the cassette mutagenesis technique described in Wells et al., *Gene* 34:315 (1985); and other mutagenesis techniques well known in the art, such as, for example, the techniques in Sambrook et al., *supra*, and *Current Protocols in Molecular Biology*, Ausubel et al. Due to the inherent degeneracy of the genetic code, other DNA sequences which encode substantially the same or a functionally equivalent amino acid sequence may be used in the practice of the invention for the cloning and expression

of these novel nucleic acids. Such DNA sequences include those which are capable of hybridizing to the appropriate novel nucleic acid sequence under stringent conditions.

Polynucleotides encoding preferred polypeptide truncations of the invention can be used to generate polynucleotides encoding chimeric or fusion proteins comprising one or more domains of the invention and heterologous protein sequences.

The polynucleotides of the invention additionally include the complement of any of the polynucleotides recited above. The polynucleotide can be DNA (genomic, cDNA, amplified, or synthetic) or RNA. Methods and algorithms for obtaining such polynucleotides are well known to those of skill in the art and can include, for example, methods for determining hybridization conditions that can routinely isolate polynucleotides of the desired sequence identities.

In accordance with the invention, polynucleotide sequences comprising the mature protein coding sequences corresponding to any one of SEQ ID NO: 1-30368, or functional equivalents thereof, may be used to generate recombinant DNA molecules that direct the expression of that nucleic acid, or a functional equivalent thereof, in appropriate host cells. Also included are the cDNA inserts of any of the clones identified herein.

A polynucleotide according to the invention can be joined to any of a variety of other nucleotide sequences by well-established recombinant DNA techniques (see Sambrook J et al. (1989) *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratory, NY). Useful nucleotide sequences for joining to polynucleotides include an assortment of vectors, *e.g.*, plasmids, cosmids, lambda phage derivatives, phagemids, and the like, that are well known in the art. Accordingly, the invention also provides a vector including a polynucleotide of the invention and a host cell containing the polynucleotide. In general, the vector contains an origin of replication functional in at least one organism, convenient restriction endonuclease sites, and a selectable marker for the host cell. Vectors according to the invention include expression vectors, replication vectors, probe generation vectors, and sequencing vectors. A host cell according to the invention can be a prokaryotic or eukaryotic cell and can be a unicellular organism or part of a multicellular organism.

The present invention further provides recombinant constructs comprising a nucleic acid having any of the nucleotide sequences of SEQ ID NO: 1-30368 or a fragment thereof or any other polynucleotides of the invention. In one embodiment, the recombinant constructs of the present invention comprise a vector, such as a plasmid or viral vector, into which a nucleic acid having any of the nucleotide sequences of SEQ ID NO: 1-30368 or a fragment thereof is inserted, in a forward or reverse orientation. In the case of a vector comprising one of the ORFs of the present invention, the vector may further comprise regulatory sequences, including for example, a promoter, operably linked to the ORF. Large numbers of suitable vectors and

promoters are known to those of skill in the art and are commercially available for generating the recombinant constructs of the present invention. The following vectors are provided by way of example. Bacterial: pBs, phagescript, PsiX174, pBluescript SK, pBs KS, pNH8a, pNH16a, pNH18a, pNH46a (Stratagene); pTrc99A, pKK223-3, pKK233-3, pDR540, pRIT5 (Pharmacia).  
5 Eukaryotic: pWLneo, pSV2cat, pOG44, PXTI, pSG (Stratagene) pSVK3, pBPV, pMSG, pSVL (Pharmacia).

The isolated polynucleotide of the invention may be operably linked to an expression control sequence such as the pMT2 or pED expression vectors disclosed in Kaufman et al., *Nucleic Acids Res.* 19, 4485-4490 (1991), in order to produce the protein recombinantly. Many  
10 suitable expression control sequences are known in the art. General methods of expressing recombinant proteins are also known and are exemplified in R. Kaufman, *Methods in Enzymology* 185, 537-566 (1990). As defined herein "operably linked" means that the isolated polynucleotide of the invention and an expression control sequence are situated within a vector or cell in such a way that the protein is expressed by a host cell which has been transformed  
15 (transfected) with the ligated polynucleotide/expression control sequence.

Promoter regions can be selected from any desired gene using CAT (chloramphenicol transferase) vectors or other vectors with selectable markers. Two appropriate vectors are pKK232-8 and pCM7. Particular named bacterial promoters include lacI, lacZ, T3, T7, gpt, lambda PR, and trc. Eukaryotic promoters include CMV immediate early, HSV thymidine  
20 kinase, early and late SV40, LTRs from retrovirus, and mouse metallothionein-I. Selection of the appropriate vector and promoter is well within the level of ordinary skill in the art. Generally, recombinant expression vectors will include origins of replication and selectable markers permitting transformation of the host cell, e.g., the ampicillin resistance gene of *E. coli* and *S. cerevisiae* TRP1 gene, and a promoter derived from a highly-expressed gene to direct  
25 transcription of a downstream structural sequence. Such promoters can be derived from operons encoding glycolytic enzymes such as 3-phosphoglycerate kinase (PGK), a-factor, acid phosphatase, or heat shock proteins, among others. The heterologous structural sequence is assembled in appropriate phase with translation initiation and termination sequences, and preferably, a leader sequence capable of directing secretion of translated protein into the  
30 periplasmic space or extracellular medium. Optionally, the heterologous sequence can encode a fusion protein including an amino terminal identification peptide imparting desired characteristics, e.g., stabilization or simplified purification of expressed recombinant product. Useful expression vectors for bacterial use are constructed by inserting a structural DNA sequence encoding a desired protein together with suitable translation initiation and termination  
35 signals in operable reading phase with a functional promoter. The vector will comprise one or



more phenotypic selectable markers and an origin of replication to ensure maintenance of the vector and to, if desirable, provide amplification within the host. Suitable prokaryotic hosts for transformation include *E. coli*, *Bacillus subtilis*, *Salmonella typhimurium* and various species within the genera *Pseudomonas*, *Streptomyces*, and *Staphylococcus*, although others may also be employed as a matter of choice.

As a representative but non-limiting example, useful expression vectors for bacterial use can comprise a selectable marker and bacterial origin of replication derived from commercially available plasmids comprising genetic elements of the well known cloning vector pBR322 (ATCC 37017). Such commercial vectors include, for example, pKK223-3 (Pharmacia Fine Chemicals, Uppsala, Sweden) and GEM 1 (Promega Biotech, Madison, WI, USA). These pBR322 "backbone" sections are combined with an appropriate promoter and the structural sequence to be expressed. Following transformation of a suitable host strain and growth of the host strain to an appropriate cell density, the selected promoter is induced or derepressed by appropriate means (*e.g.*, temperature shift or chemical induction) and cells are cultured for an additional period. Cells are typically harvested by centrifugation, disrupted by physical or chemical means, and the resulting crude extract retained for further purification.

Polynucleotides of the invention can also be used to induce immune responses. For example, as described in Fan et al., *Nat. Biotech.* 17:870-872 (1999), incorporated herein by reference, nucleic acid sequences encoding a polypeptide may be used to generate antibodies against the encoded polypeptide following topical administration of naked plasmid DNA or following injection, and preferably intramuscular injection of the DNA. The nucleic acid sequences are preferably inserted in a recombinant expression vector and may be in the form of naked DNA.

#### 4.3 ANTISENSE

Another aspect of the invention pertains to isolated antisense nucleic acid molecules that are hybridizable to or complementary to the nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1-30368, or fragments, analogs or derivatives thereof. An "antisense" nucleic acid comprises a nucleotide sequence that is complementary to a "sense" nucleic acid encoding a protein, *e.g.*, complementary to the coding strand of a double-stranded cDNA molecule or complementary to an mRNA sequence. In specific aspects, antisense nucleic acid molecules are provided that comprise a sequence complementary to at least about 10, 25, 50, 100, 250 or 500 nucleotides or an entire coding strand, or to only a portion thereof. Nucleic acid molecules encoding fragments, homologs, derivatives and analogs of a protein of any of SEQ ID

**THIS PAGE BLANK (USPTO)**

**THIS PAGE BLANK (USPTO)**

NO: 30369-60736 or antisense nucleic acids complementary to a nucleic acid sequence of SEQ ID NO: 1-30368 are additionally provided.

In one embodiment, an antisense nucleic acid molecule is antisense to a "coding region" of the coding strand of a nucleotide sequence of the invention. The term "coding region" refers to the region of the nucleotide sequence comprising codons which are translated into amino acid residues. In another embodiment, the antisense nucleic acid molecule is antisense to a "noncoding region" of the coding strand of a nucleotide sequence of the invention. The term "noncoding region" refers to 5' and 3' sequences which flank the coding region that are not translated into amino acids (*i.e.*, also referred to as 5' and 3' untranslated regions).

Given the coding strand sequences encoding a nucleic acid disclosed herein (*e.g.*, SEQ ID NO: 1-30368), antisense nucleic acids of the invention can be designed according to the rules of Watson and Crick or Hoogsteen base pairing. The antisense nucleic acid molecule can be complementary to the entire coding region of a mRNA, but more preferably is an oligonucleotide that is antisense to only a portion of the coding or noncoding region of a mRNA. For example, the antisense oligonucleotide can be complementary to the region surrounding the translation start site of a mRNA. An antisense oligonucleotide can be, for example, about 5, 10, 15, 20, 25, 30, 35, 40, 45 or 50 nucleotides in length. An antisense nucleic acid of the invention can be constructed using chemical synthesis or enzymatic ligation reactions using procedures known in the art. For example, an antisense nucleic acid (*e.g.*, an antisense oligonucleotide) can be chemically synthesized using naturally occurring nucleotides or variously modified nucleotides designed to increase the biological stability of the molecules or to increase the physical stability of the duplex formed between the antisense and sense nucleic acids, *e.g.*, phosphorothioate derivatives and acridine substituted nucleotides can be used.

Examples of modified nucleotides that can be used to generate the antisense nucleic acid include: 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xanthine, 4-acetylcytosine, 5-(carboxyhydroxymethyl) uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5'-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid ( $\nu$ ), wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid ( $\nu$ ), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine. Alternatively, the

antisense nucleic acid can be produced biologically using an expression vector into which a nucleic acid has been subcloned in an antisense orientation (*i.e.*, RNA transcribed from the inserted nucleic acid will be of an antisense orientation to a target nucleic acid of interest, described further in the following subsection).

5           The antisense nucleic acid molecules of the invention are typically administered to a subject or generated *in situ* such that they hybridize with or bind to cellular mRNA and/or genomic DNA encoding a protein according to the invention to thereby inhibit expression of the protein, *e.g.*, by inhibiting transcription and/or translation. The hybridization can be by conventional nucleotide complementarity to form a stable duplex, or, for example, in the case of  
10   an antisense nucleic acid molecule that binds to DNA duplexes, through specific interactions in the major groove of the double helix. An example of a route of administration of antisense nucleic acid molecules of the invention includes direct injection at a tissue site. Alternatively, antisense nucleic acid molecules can be modified to target selected cells and then administered systemically. For example, for systemic administration, antisense molecules can be modified  
15   such that they specifically bind to receptors or antigens expressed on a selected cell surface, *e.g.*, by linking the antisense nucleic acid molecules to peptides or antibodies that bind to cell surface receptors or antigens. The antisense nucleic acid molecules can also be delivered to cells using the vectors described herein. To achieve sufficient intracellular concentrations of antisense molecules, vector constructs in which the antisense nucleic acid molecule is placed under the  
20   control of a strong pol II or pol III promoter are preferred.

In yet another embodiment, the antisense nucleic acid molecule of the invention is an  $\alpha$ -anomeric nucleic acid molecule. An  $\alpha$ -anomeric nucleic acid molecule forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual  $\beta$ -units, the strands run parallel to each other (Gaultier *et al.* (1987) *Nucleic Acids Res* 15: 6625-6641). The  
25   antisense nucleic acid molecule can also comprise a 2'-*o*-methylribonucleotide (Inoue *et al.* (1987) *Nucleic Acids Res* 15: 6131-6148) or a chimeric RNA-DNA analogue (Inoue *et al.* (1987) *FEBS Lett* 215: 327-330).

#### 4.4 RIBOZYMES AND PNA MOIETIES

30           In still another embodiment, an antisense nucleic acid of the invention is a ribozyme. Ribozymes are catalytic RNA molecules with ribonuclease activity that are capable of cleaving a single-stranded nucleic acid, such as a mRNA, to which they have a complementary region. Thus, ribozymes (*e.g.*, hammerhead ribozymes (described in Haselhoff and Gerlach (1988) *Nature* 334:585-591)) can be used to catalytically cleave a mRNA transcripts to thereby inhibit  
35   translation of a mRNA. A ribozyme having specificity for a nucleic acid of the invention can be

designed based upon the nucleotide sequence of a DNA disclosed herein (*i.e.*, SEQ ID NO: 1-30368). For example, a derivative of a Tetrahymena L-19 IVS RNA can be constructed in which the nucleotide sequence of the active site is complementary to the nucleotide sequence to be cleaved in an mRNA of SEQ ID NO: 1-30368 (see, *e.g.*, Cech *et al.* U.S. Pat. No. 4,987,071; and Cech *et al.* U.S. Pat. No. 5,116,742). Alternatively, polynucleotides of the invention can be used to select a catalytic RNA having a specific ribonuclease activity from a pool of RNA molecules. See, *e.g.*, Bartel *et al.*, (1993) *Science* 261:1411-1418.

Alternatively, gene expression can be inhibited by targeting nucleotide sequences complementary to the regulatory region (*e.g.*, promoter and/or enhancers) to form triple helical structures that prevent transcription of the gene in target cells. See generally, Helene. (1991) *Anticancer Drug Des.* 6: 569-84; Helene. *et al.* (1992) *Ann. N.Y. Acad. Sci.* 660:27-36; and Maher (1992) *Bioassays* 14: 807-15.

In various embodiments, the nucleic acids of the invention can be modified at the base moiety, sugar moiety or phosphate backbone to improve, *e.g.*, the stability, hybridization, or solubility of the molecule. For example, the deoxyribose phosphate backbone of the nucleic acids can be modified to generate peptide nucleic acids (see Hyrup *et al.* (1996) *Bioorg Med Chem* 4: 5-23). As used herein, the terms "peptide nucleic acids" or "PNAs" refer to nucleic acid mimics, *e.g.*, DNA mimics, in which the deoxyribose phosphate backbone is replaced by a pseudopeptide backbone and only the four natural nucleobases are retained. The neutral backbone of PNAs has been shown to allow for specific hybridization to DNA and RNA under conditions of low ionic strength. The synthesis of PNA oligomers can be performed using standard solid phase peptide synthesis protocols as described in Hyrup *et al.* (1996) above; Perry-O'Keefe *et al.* (1996) *PNAS* 93: 14670-675.

PNAs of the invention can be used in therapeutic and diagnostic applications. For example, PNAs can be used as antisense or antigene agents for sequence-specific modulation of gene expression by, *e.g.*, inducing transcription or translation arrest or inhibiting replication. PNAs of the invention can also be used, *e.g.*, in the analysis of single base pair mutations in a gene by, *e.g.*, PNA directed PCR clamping; as artificial restriction enzymes when used in combination with other enzymes, *e.g.*, S1 nucleases (Hyrup B. (1996) above); or as probes or primers for DNA sequence and hybridization (Hyrup *et al.* (1996), above; Perry-O'Keefe (1996), above).

In another embodiment, PNAs of the invention can be modified, *e.g.*, to enhance their stability or cellular uptake, by attaching lipophilic or other helper groups to PNA, by the formation of PNA-DNA chimeras, or by the use of liposomes or other techniques of drug delivery known in the art. For example, PNA-DNA chimeras can be generated that may

combine the advantageous properties of PNA and DNA. Such chimeras allow DNA recognition enzymes, *e.g.*, RNase H and DNA polymerases, to interact with the DNA portion while the PNA portion would provide high binding affinity and specificity. PNA-DNA chimeras can be linked using linkers of appropriate lengths selected in terms of base stacking, number of bonds between the nucleobases, and orientation (Hyrup (1996) above). The synthesis of PNA-DNA chimeras can be performed as described in Hyrup (1996) above and Finn *et al.* (1996) *Nucl Acids Res* 24: 3357-63. For example, a DNA chain can be synthesized on a solid support using standard phosphoramidite coupling chemistry, and modified nucleoside analogs, *e.g.*, 5'-(4-methoxytrityl)amino-5'-deoxy-thymidine phosphoramidite, can be used between the PNA and the 5' end of DNA (Mag *et al.* (1989) *Nucl Acid Res* 17: 5973-88). PNA monomers are then coupled in a stepwise manner to produce a chimeric molecule with a 5' PNA segment and a 3' DNA segment (Finn *et al.* (1996) above). Alternatively, chimeric molecules can be synthesized with a 5' DNA segment and a 3' PNA segment. See, Petersen *et al.* (1975) *Bioorg Med Chem Lett* 5: 1119-11124.

In other embodiments, the oligonucleotide may include other appended groups such as peptides (*e.g.*, for targeting host cell receptors *in vivo*), or agents facilitating transport across the cell membrane (see, *e.g.*, Letsinger *et al.*, 1989, *Proc. Natl. Acad. Sci. U.S.A.* 86:6553-6556; Lemaitre *et al.*, 1987, *Proc. Natl. Acad. Sci.* 84:648-652; PCT Publication No. W088/09810) or the blood-brain barrier (see, *e.g.*, PCT Publication No. W089/10134). In addition, oligonucleotides can be modified with hybridization triggered cleavage agents (See, *e.g.*, Krol *et al.*, 1988, *BioTechniques* 6:958-976) or intercalating agents (see, *e.g.*, Zon, 1988, *Pharm. Res.* 5:539-549). To this end, the oligonucleotide may be conjugated to another molecule, *e.g.*, a peptide, a hybridization triggered cross-linking agent, a transport agent, a hybridization-triggered cleavage agent, etc.

#### 4.5 HOSTS

The present invention further provides host cells genetically engineered to contain the polynucleotides of the invention. For example, such host cells may contain nucleic acids of the invention introduced into the host cell using known transformation, transfection or infection methods. The present invention still further provides host cells genetically engineered to express the polynucleotides of the invention, wherein such polynucleotides are in operative association with a regulatory sequence heterologous to the host cell which drives expression of the polynucleotides in the cell.

Knowledge of nucleic acid sequences allows for modification of cells to permit, or increase, expression of endogenous polypeptide. Cells can be modified (*e.g.*, by homologous

recombination) to provide increased polypeptide expression by replacing, in whole or in part, the naturally occurring promoter with all or part of a heterologous promoter so that the cells express the polypeptide at higher levels. The heterologous promoter is inserted in such a manner that it is operatively linked to the encoding sequences. See, for example, PCT International Publication No. WO94/12650, PCT International Publication No. WO92/20808, and PCT International Publication No. WO91/09955. It is also contemplated that, in addition to heterologous promoter DNA, amplifiable marker DNA (*e.g.*, *ada*, *dhfr*, and the multifunctional CAD gene which encodes carbamyl phosphate synthase, aspartate transcarbamylase, and dihydroorotase) and/or intron DNA may be inserted along with the heterologous promoter DNA. If linked to the coding sequence, amplification of the marker DNA by standard selection methods results in co-amplification of the desired protein coding sequences in the cells.

The host cell can be a higher eukaryotic host cell, such as a mammalian cell, a lower eukaryotic host cell, such as a yeast cell, or the host cell can be a prokaryotic cell, such as a bacterial cell. Introduction of the recombinant construct into the host cell can be effected by calcium phosphate transfection, DEAE, dextran mediated transfection, or electroporation (Davis, L. et al., *Basic Methods in Molecular Biology* (1986)). The host cells containing one of the polynucleotides of the invention, can be used in conventional manners to produce the gene product encoded by the isolated fragment (in the case of an ORF) or can be used to produce a heterologous protein under the control of the EMF.

Any host/vector system can be used to express one or more of the ORFs of the present invention. These include, but are not limited to, eukaryotic hosts such as HeLa cells, Cv-1 cell, COS cells, 293 cells, and Sf9 cells, as well as prokaryotic host such as *E. coli* and *B. subtilis*. The most preferred cells are those which do not normally express the particular polypeptide or protein or which expresses the polypeptide or protein at low natural level. Mature proteins can be expressed in mammalian cells, yeast, bacteria, or other cells under the control of appropriate promoters. Cell-free translation systems can also be employed to produce such proteins using RNAs derived from the DNA constructs of the present invention. Appropriate cloning and expression vectors for use with prokaryotic and eukaryotic hosts are described by Sambrook, et al., in *Molecular Cloning: A Laboratory Manual*, Second Edition, Cold Spring Harbor, New York (1989), the disclosure of which is hereby incorporated by reference.

Various mammalian cell culture systems can also be employed to express recombinant protein. Examples of mammalian expression systems include the COS-7 lines of monkey kidney fibroblasts, described by Gluzman, *Cell* 23:175 (1981). Other cell lines capable of expressing a compatible vector are, for example, the C127, monkey COS cells, Chinese Hamster Ovary (CHO) cells, human kidney 293 cells, human epidermal A431 cells, human Colo205 cells, 3T3



cells, CV-1 cells, other transformed primate cell lines, normal diploid cells, cell strains derived from *in vitro* culture of primary tissue, primary explants, HeLa cells, mouse L cells, BHK, HL-60, U937, HaK or Jurkat cells. Mammalian expression vectors will comprise an origin of replication, a suitable promoter and also any necessary ribosome binding sites, polyadenylation site, splice donor and acceptor sites, transcriptional termination sequences, and 5' flanking nontranscribed sequences. DNA sequences derived from the SV40 viral genome, for example, SV40 origin, early promoter, enhancer, splice, and polyadenylation sites may be used to provide the required nontranscribed genetic elements. Recombinant polypeptides and proteins produced in bacterial culture are usually isolated by initial extraction from cell pellets, followed by one or more salting-out, aqueous ion exchange or size exclusion chromatography steps. Protein refolding steps can be used, as necessary, in completing configuration of the mature protein. Finally, high performance liquid chromatography (HPLC) can be employed for final purification steps. Microbial cells employed in expression of proteins can be disrupted by any convenient method, including freeze-thaw cycling, sonication, mechanical disruption, or use of cell lysing agents.

Alternatively, it may be possible to produce the protein in lower eukaryotes such as yeast or insects or in prokaryotes such as bacteria. Potentially suitable yeast strains include *Saccharomyces cerevisiae*, *Schizosaccharomyces pombe*, *Kluyveromyces* strains, *Candida*, or any yeast strain capable of expressing heterologous proteins. Potentially suitable bacterial strains include *Escherichia coli*, *Bacillus subtilis*, *Salmonella typhimurium*, or any bacterial strain capable of expressing heterologous proteins. If the protein is made in yeast or bacteria, it may be necessary to modify the protein produced therein, for example by phosphorylation or glycosylation of the appropriate sites, in order to obtain the functional protein. Such covalent attachments may be accomplished using known chemical or enzymatic methods.

In another embodiment of the present invention, cells and tissues may be engineered to express an endogenous gene comprising the polynucleotides of the invention under the control of inducible regulatory elements, in which case the regulatory sequences of the endogenous gene may be replaced by homologous recombination. As described herein, gene targeting can be used to replace a gene's existing regulatory region with a regulatory sequence isolated from a different gene or a novel regulatory sequence synthesized by genetic engineering methods. Such regulatory sequences may be comprised of promoters, enhancers, scaffold-attachment regions, negative regulatory elements, transcriptional initiation sites, regulatory protein binding sites or combinations of said sequences. Alternatively, sequences which affect the structure or stability of the RNA or protein produced may be replaced, removed, added, or otherwise modified by targeting. These sequence include polyadenylation signals, mRNA stability elements, splice

sites, leader sequences for enhancing or modifying transport or secretion properties of the protein, or other sequences which alter or improve the function or stability of protein or RNA molecules.

The targeting event may be a simple insertion of the regulatory sequence, placing the gene under the control of the new regulatory sequence, *e.g.*, inserting a new promoter or enhancer or both upstream of a gene. Alternatively, the targeting event may be a simple deletion of a regulatory element, such as the deletion of a tissue-specific negative regulatory element. Alternatively, the targeting event may replace an existing element; for example, a tissue-specific enhancer can be replaced by an enhancer that has broader or different cell-type specificity than the naturally occurring elements. Here, the naturally occurring sequences are deleted and new sequences are added. In all cases, the identification of the targeting event may be facilitated by the use of one or more selectable marker genes that are contiguous with the targeting DNA, allowing for the selection of cells in which the exogenous DNA has integrated into the host cell genome. The identification of the targeting event may also be facilitated by the use of one or more marker genes exhibiting the property of negative selection, such that the negatively selectable marker is linked to the exogenous DNA, but configured such that the negatively selectable marker flanks the targeting sequence, and such that a correct homologous recombination event with sequences in the host cell genome does not result in the stable integration of the negatively selectable marker. Markers useful for this purpose include the Herpes Simplex Virus thymidine kinase (TK) gene or the bacterial xanthine-guanine phosphoribosyl-transferase (*gpt*) gene.

The gene targeting or gene activation techniques which can be used in accordance with this aspect of the invention are more particularly described in U.S. Patent No. 5,272,071 to Chappel; U.S. Patent No. 5,578,461 to Sherwin et al.; International Application No. PCT/US92/09627 (WO93/09222) by Selden et al.; and International Application No. PCT/US90/06436 (WO91/06667) by Skoultchi et al., each of which is incorporated by reference herein in its entirety.

#### 4.6 POLYPEPTIDES OF THE INVENTION

The isolated polypeptides of the invention include, but are not limited to, a polypeptide comprising: the amino acid sequences set forth as any one of SEQ ID NO: 30369-60736 or an amino acid sequence encoded by any one of the nucleotide sequences SEQ ID NO: 1-30368 or the corresponding full length or mature protein. Polypeptides of the invention also include polypeptides preferably with biological or immunological activity that are encoded by: (a) a polynucleotide having any one of the nucleotide sequences set forth in SEQ ID NO: 1-30368 or

(b) polynucleotides encoding any one of the amino acid sequences set forth as SEQ ID NO:

30369-60736 or (c) polynucleotides that hybridize to the complement of the polynucleotides of either (a) or (b) under stringent hybridization conditions. The invention also provides biologically active or immunologically active variants of any of the amino acid sequences set

forth as SEQ ID NO: 30369-60736 or the corresponding full length or mature protein; and "substantial equivalents" thereof (*e.g.*, with at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, 86%, 87%, 88%, 89%, at least about 90%, 91%, 92%, 93%, 94%, typically at least about 95%, 96%, 97%, more typically at least about 98%, or most typically at least about 99% amino acid identity) that retain biological activity.

Polypeptides encoded by allelic variants may have a similar, increased, or decreased activity compared to polypeptides comprising SEQ ID NO: 30369-60736.

Fragments of the proteins of the present invention which are capable of exhibiting biological activity are also encompassed by the present invention. Fragments of the protein may be in linear form or they may be cyclized using known methods, for example, as described in H. U. Saragovi, et al., *Bio/Technology* 10, 773-778 (1992) and in R. S. McDowell, et al., *J. Amer. Chem. Soc.* 114, 9245-9253 (1992), both of which are incorporated herein by reference. Such fragments may be fused to carrier molecules such as immunoglobulins for many purposes, including increasing the valency of protein binding sites.

The present invention also provides both full-length and mature forms (for example, without a signal sequence or precursor sequence) of the disclosed proteins. The protein coding sequence is identified in the sequence listing by translation of the disclosed nucleotide sequences. The mature form of such protein may be obtained by expression of a full-length polynucleotide in a suitable mammalian cell or other host cell. The sequence of the mature form of the protein is also determinable from the amino acid sequence of the full-length form. Where proteins of the present invention are membrane bound, soluble forms of the proteins are also provided. In such forms, part or all of the regions causing the proteins to be membrane bound are deleted so that the proteins are fully secreted from the cell in which they are expressed.

Protein compositions of the present invention may further comprise an acceptable carrier, such as a hydrophilic, *e.g.*, pharmaceutically acceptable, carrier.

The present invention further provides isolated polypeptides encoded by the nucleic acid fragments of the present invention or by degenerate variants of the nucleic acid fragments of the present invention. By "degenerate variant" is intended nucleotide fragments which differ from a nucleic acid fragment of the present invention (*e.g.*, an ORF) by nucleotide sequence but, due to the degeneracy of the genetic code, encode an identical polypeptide sequence. Preferred nucleic acid fragments of the present invention are the ORFs that encode proteins.

A variety of methodologies known in the art can be utilized to obtain any one of the isolated polypeptides or proteins of the present invention. At the simplest level, the amino acid sequence can be synthesized using commercially available peptide synthesizers. The synthetically-constructed protein sequences, by virtue of sharing primary, secondary or tertiary structural and/or conformational characteristics with proteins may possess biological properties in common therewith, including protein activity. This technique is particularly useful in producing small peptides and fragments of larger polypeptides. Fragments are useful, for example, in generating antibodies against the native polypeptide. Thus, they may be employed as biologically active or immunological substitutes for natural, purified proteins in screening of therapeutic compounds and in immunological processes for the development of antibodies.

The polypeptides and proteins of the present invention can alternatively be purified from cells which have been altered to express the desired polypeptide or protein. As used herein, a cell is said to be altered to express a desired polypeptide or protein when the cell, through genetic manipulation, is made to produce a polypeptide or protein which it normally does not produce or which the cell normally produces at a lower level. One skilled in the art can readily adapt procedures for introducing and expressing either recombinant or synthetic sequences into eukaryotic or prokaryotic cells in order to generate a cell which produces one of the polypeptides or proteins of the present invention.

The invention also relates to methods for producing a polypeptide comprising growing a culture of host cells of the invention in a suitable culture medium, and purifying the protein from the cells or the culture in which the cells are grown. For example, the methods of the invention include a process for producing a polypeptide in which a host cell containing a suitable expression vector that includes a polynucleotide of the invention is cultured under conditions that allow expression of the encoded polypeptide. The polypeptide can be recovered from the culture, conveniently from the culture medium, or from a lysate prepared from the host cells and further purified. Preferred embodiments include those in which the protein produced by such process is a full length or mature form of the protein.

In an alternative method, the polypeptide or protein is purified from bacterial cells which naturally produce the polypeptide or protein. One skilled in the art can readily follow known methods for isolating polypeptides and proteins in order to obtain one of the isolated polypeptides or proteins of the present invention. These include, but are not limited to, immunochromatography, HPLC, size-exclusion chromatography, ion-exchange chromatography, and immuno-affinity chromatography. See, e.g., Scopes, *Protein Purification: Principles and Practice*, Springer-Verlag (1994); Sambrook, et al., in *Molecular Cloning: A Laboratory Manual*; Ausubel et al., *Current Protocols in Molecular Biology*. Polypeptide fragments that

retain biological/immunological activity include fragments comprising greater than about 100 amino acids, or greater than about 200 amino acids, and fragments that encode specific protein domains.

The purified polypeptides can be used in *in vitro* binding assays which are well known in the art to identify molecules which bind to the polypeptides. These molecules include but are not limited to, for *e.g.*, small molecules, molecules from combinatorial libraries, antibodies or other proteins. The molecules identified in the binding assay are then tested for antagonist or agonist activity in *in vivo* tissue culture or animal models that are well known in the art. In brief, the molecules are titrated into a plurality of cell cultures or animals and then tested for either cell/animal death or prolonged survival of the animal/cells.

In addition, the peptides of the invention or molecules capable of binding to the peptides may be complexed with toxins, *e.g.*, ricin or cholera, or with other compounds that are toxic to cells. The toxin-binding molecule complex is then targeted to a tumor or other cell by the specificity of the binding molecule for SEQ ID NO: 30369-60736.

The protein of the invention may also be expressed as a product of transgenic animals, *e.g.*, as a component of the milk of transgenic cows, goats, pigs, or sheep which are characterized by somatic or germ cells containing a nucleotide sequence encoding the protein.

The proteins provided herein also include proteins characterized by amino acid sequences similar to those of purified proteins but into which modification are naturally provided or deliberately engineered. For example, modifications in the peptide or DNA sequence can be made by those skilled in the art using known techniques. Modifications of interest in the protein sequences may include the alteration, substitution, replacement, insertion or deletion of a selected amino acid residue in the coding sequence. For example, one or more of the cysteine residues may be deleted or replaced with another amino acid to alter the conformation of the molecule. Techniques for such alteration, substitution, replacement, insertion or deletion are well known to those skilled in the art (see, *e.g.*, U.S. Pat. No. 4,518,584). Preferably, such alteration, substitution, replacement, insertion or deletion retains the desired activity of the protein. Regions of the protein that are important for the protein function can be determined by various methods known in the art including the alanine-scanning method which involved systematic substitution of single or strings of amino acids with alanine, followed by testing the resulting alanine-containing variant for biological activity. This type of analysis determines the importance of the substituted amino acid(s) in biological activity. Regions of the protein that are important for protein function may be determined by the eMATRIX program.

Other fragments and derivatives of the sequences of proteins which would be expected to retain protein activity in whole or in part and are useful for screening or other immunological

methodologies may also be easily made by those skilled in the art given the disclosures herein. Such modifications are encompassed by the present invention.

The protein may also be produced by operably linking the isolated polynucleotide of the invention to suitable control sequences in one or more insect expression vectors, and employing an insect expression system. Materials and methods for baculovirus/insect cell expression systems are commercially available in kit form from, *e.g.*, Invitrogen, San Diego, Calif., U.S.A. (the MaxBat™ kit), and such methods are well known in the art, as described in Summers and Smith, Texas Agricultural Experiment Station Bulletin No. 1555 (1987), incorporated herein by reference. As used herein, an insect cell capable of expressing a polynucleotide of the present invention is "transformed."

The protein of the invention may be prepared by culturing transformed host cells under culture conditions suitable to express the recombinant protein. The resulting expressed protein may then be purified from such culture (*i.e.*, from culture medium or cell extracts) using known purification processes, such as gel filtration and ion exchange chromatography. The purification of the protein may also include an affinity column containing agents which will bind to the protein; one or more column steps over such affinity resins as concanavalin A-agarose, heparin-toyopearl™ or Cibacrom blue 3GA Sepharose™; one or more steps involving hydrophobic interaction chromatography using such resins as phenyl ether, butyl ether, or propyl ether; or immunoaffinity chromatography.

Alternatively, the protein of the invention may also be expressed in a form that will facilitate purification. For example, it may be expressed as a fusion protein, such as those of maltose binding protein (MBP), glutathione-S-transferase (GST) or thioredoxin (TRX), or as a His-tag. Kits for expression and purification of such fusion proteins are commercially available from New England BioLab (Beverly, Mass.), Pharmacia (Piscataway, N.J.) and Invitrogen, respectively. The protein can also be tagged with an epitope and subsequently purified by using a specific antibody directed to such epitope. One such epitope ("FLAG®") is commercially available from Kodak (New Haven, Conn.).

Finally, one or more reverse-phase high performance liquid chromatography (RP- HPLC) steps employing hydrophobic RP-HPLC media, *e.g.*, silica gel having pendant methyl or other aliphatic groups, can be employed to further purify the protein. Some or all of the foregoing purification steps, in various combinations, can also be employed to provide a substantially homogeneous isolated recombinant protein. The protein thus purified is substantially free of other mammalian proteins and is defined in accordance with the present invention as an "isolated protein."

The polypeptides of the invention include analogs (variants). This embraces fragments, as well as peptides in which one or more amino acids has been deleted, inserted, or substituted. Also, analogs of the polypeptides of the invention embrace fusions of the polypeptides or modifications of the polypeptides of the invention, wherein the polypeptide or analog is fused to another moiety or moieties, *e.g.*, targeting moiety or another therapeutic agent. Such analogs may exhibit improved properties such as activity and/or stability. Examples of moieties which may be fused to the polypeptide or an analog include, for example, targeting moieties which provide for the delivery of polypeptide to pancreatic cells, *e.g.*, antibodies to pancreatic cells, antibodies to immune cells such as T-cells, monocytes, dendritic cells, granulocytes, etc., as well as receptor and ligands expressed on pancreatic or immune cells. Other moieties which may be fused to the polypeptide include therapeutic agents which are used for treatment, for example, immunosuppressive drugs such as cyclosporin, SK506, azathioprine, CD3 antibodies and steroids. Also, polypeptides may be fused to immune modulators, and other cytokines such as alpha or beta interferon.

#### 4.6.1 DETERMINING POLYPEPTIDE AND POLYNUCLEOTIDE IDENTITY AND SIMILARITY

Preferred identity and/or similarity are designed to give the largest match between the sequences tested. Methods to determine identity and similarity are codified in computer programs including, but are not limited to, the GCG program package, including GAP (Devereux, J., et al., Nucleic Acids Research 12(1):387 (1984); Genetics Computer Group, University of Wisconsin, Madison, WI), BLASTP, BLASTN, BLASTX, FASTA (Altschul, S.F. et al., J. Molec. Biol. 215:403-410 (1990), PSI-BLAST (Altschul S.F. et al., Nucleic Acids Res. vol. 25, pp. 3389-3402, herein incorporated by reference), eMatrix software (Wu et al., J. Comp. Biol., Vol. 6, pp. 219-235 (1999), herein incorporated by reference), eMotif software (Nevill-Manning et al, ISMB-97, Vol. 4, pp. 202-209, herein incorporated by reference), pFam software (Sonnhammer et al., Nucleic Acids Res., Vol. 26(1), pp. 320-322 (1998), herein incorporated by reference) and the Kyte-Doolittle hydrophobicity prediction algorithm (J. Mol Biol, 157, pp. 105-31 (1982), incorporated herein by reference). The BLAST programs are publicly available from the National Center for Biotechnology Information (NCBI) and other sources (BLAST Manual, Altschul, S., et al. NCB NLM NIH Bethesda, MD 20894; Altschul, S., et al., J. Mol. Biol. 215:403-410 (1990).

#### 4.7 CHIMERIC AND FUSION PROTEINS

The invention also provides chimeric or fusion proteins. As used herein, a "chimeric protein" or "fusion protein" comprises a polypeptide of the invention operatively linked to

another polypeptide. Within a fusion protein the polypeptide according to the invention can correspond to all or a portion of a protein according to the invention. In one embodiment, a fusion protein comprises at least one biologically active portion of a protein according to the invention. In another embodiment, a fusion protein comprises at least two biologically active portions of a protein according to the invention. Within the fusion protein, the term "operatively linked" is intended to indicate that the polypeptide according to the invention and the other polypeptide are fused in-frame to each other. The polypeptide can be fused to the N-terminus or C-terminus.

For example, in one embodiment a fusion protein comprises a polypeptide according to the invention operably linked to the extracellular domain of a second protein.

In another embodiment, the fusion protein is a GST-fusion protein in which the polypeptide sequences of the invention are fused to the C-terminus of the GST (*i.e.*, glutathione S-transferase) sequences.

In another embodiment, the fusion protein is an immunoglobulin fusion protein in which the polypeptide sequences according to the invention comprises one or more domains are fused to sequences derived from a member of the immunoglobulin protein family. The immunoglobulin fusion proteins of the invention can be incorporated into pharmaceutical compositions and administered to a subject to inhibit an interaction between a ligand and a protein of the invention on the surface of a cell, to thereby suppress signal transduction *in vivo*.

The immunoglobulin fusion proteins can be used to affect the bioavailability of a cognate ligand. Inhibition of the ligand/protein interaction may be useful therapeutically for both the treatment of proliferative and differentiative disorders, *e.g.*, cancer as well as modulating (*e.g.*, promoting or inhibiting) cell survival. Moreover, the immunoglobulin fusion proteins of the invention can be used as immunogens to produce antibodies in a subject, to purify ligands, and in screening assays to identify molecules that inhibit the interaction of a polypeptide of the invention with a ligand.

A chimeric or fusion protein of the invention can be produced by standard recombinant DNA techniques. For example, DNA fragments coding for the different polypeptide sequences are ligated together in-frame in accordance with conventional techniques, *e.g.*, by employing blunt-ended or stagger-ended termini for ligation, restriction enzyme digestion to provide for appropriate termini, filling-in of cohesive ends as appropriate, alkaline phosphatase treatment to avoid undesirable joining, and enzymatic ligation. In another embodiment, the fusion gene can be synthesized by conventional techniques including automated DNA synthesizers.

Alternatively, PCR amplification of gene fragments can be carried out using anchor primers that give rise to complementary overhangs between two consecutive gene fragments that can subsequently be annealed and reamplified to generate a chimeric gene sequence (see, for



example, Ausubel et al. (eds.) CURRENT PROTOCOLS IN MOLECULAR BIOLOGY, John Wiley & Sons, 1992). Moreover, many expression vectors are commercially available that already encode a fusion moiety (e.g., a GST polypeptide). A nucleic acid encoding a polypeptide of the invention can be cloned into such an expression vector such that the fusion moiety is linked in-frame to the protein of the invention.

#### 4.8 GENE THERAPY

Mutations in the polynucleotides of the invention gene may result in loss of normal function of the encoded protein. The invention thus provides gene therapy to restore normal activity of the polypeptides of the invention; or to treat disease states involving polypeptides of the invention. Delivery of a functional gene encoding polypeptides of the invention to appropriate cells is effected *ex vivo*, *in situ*, or *in vivo* by use of vectors, and more particularly viral vectors (e.g., adenovirus, adeno-associated virus, or a retrovirus), or *ex vivo* by use of physical DNA transfer methods (e.g., liposomes or chemical treatments). See, for example, Anderson, Nature, supplement to vol. 392, no. 6679, pp.25-20 (1998). For additional reviews of gene therapy technology see Friedmann, Science, 244: 1275-1281 (1989); Verma, Scientific American: 68-84 (1990); and Miller, Nature, 357: 455-460 (1992). Introduction of any one of the nucleotides of the present invention or a gene encoding the polypeptides of the present invention can also be accomplished with extrachromosomal substrates (transient expression) or artificial chromosomes (stable expression). Cells may also be cultured *ex vivo* in the presence of proteins of the present invention in order to proliferate or to produce a desired effect on or activity in such cells. Treated cells can then be introduced *in vivo* for therapeutic purposes. Alternatively, it is contemplated that in other human disease states, preventing the expression of or inhibiting the activity of polypeptides of the invention will be useful in treating the disease states. It is contemplated that antisense therapy or gene therapy could be applied to negatively regulate the expression of polypeptides of the invention.

Other methods inhibiting expression of a protein include the introduction of antisense molecules to the nucleic acids of the present invention, their complements, or their translated RNA sequences, by methods known in the art. Further, the polypeptides of the present invention can be inhibited by using targeted deletion methods, or the insertion of a negative regulatory element such as a silencer, which is tissue specific.

The present invention still further provides cells genetically engineered *in vivo* to express the polynucleotides of the invention, wherein such polynucleotides are in operative association with a regulatory sequence heterologous to the host cell which drives expression of the polynucleotides in

the cell. These methods can be used to increase or decrease the expression of the polynucleotides of the present invention.

Knowledge of DNA sequences provided by the invention allows for modification of cells to permit, increase, or decrease, expression of endogenous polypeptide. Cells can be modified (*e.g.*, by homologous recombination) to provide increased polypeptide expression by replacing, in whole or in part, the naturally occurring promoter with all or part of a heterologous promoter so that the cells express the protein at higher levels. The heterologous promoter is inserted in such a manner that it is operatively linked to the desired protein encoding sequences. See, for example, PCT International Publication No. WO 94/12650, PCT International Publication No. WO 92/20808, and PCT International Publication No. WO 91/09955. It is also contemplated that, in addition to heterologous promoter DNA, amplifiable marker DNA (*e.g.*, *ada*, *dhfr*, and the multifunctional CAD gene which encodes carbamyl phosphate synthase, aspartate transcarbamylase, and dihydroorotase) and/or intron DNA may be inserted along with the heterologous promoter DNA. If linked to the desired protein coding sequence, amplification of the marker DNA by standard selection methods results in co-amplification of the desired protein coding sequences in the cells.

In another embodiment of the present invention, cells and tissues may be engineered to express an endogenous gene comprising the polynucleotides of the invention under the control of inducible regulatory elements, in which case the regulatory sequences of the endogenous gene may be replaced by homologous recombination. As described herein, gene targeting can be used to replace a gene's existing regulatory region with a regulatory sequence isolated from a different gene or a novel regulatory sequence synthesized by genetic engineering methods. Such regulatory sequences may be comprised of promoters, enhancers, scaffold-attachment regions, negative regulatory elements, transcriptional initiation sites, regulatory protein binding sites or combinations of said sequences. Alternatively, sequences which affect the structure or stability of the RNA or protein produced may be replaced, removed, added, or otherwise modified by targeting. These sequences include polyadenylation signals, mRNA stability elements, splice sites, leader sequences for enhancing or modifying transport or secretion properties of the protein, or other sequences which alter or improve the function or stability of protein or RNA molecules.

The targeting event may be a simple insertion of the regulatory sequence, placing the gene under the control of the new regulatory sequence, *e.g.*, inserting a new promoter or enhancer or both upstream of a gene. Alternatively, the targeting event may be a simple deletion of a regulatory element, such as the deletion of a tissue-specific negative regulatory element. Alternatively, the targeting event may replace an existing element; for example, a tissue-specific enhancer can be replaced by an enhancer that has broader or different cell-type specificity than the naturally occurring elements. Here, the naturally occurring sequences are deleted and new sequences are

added. In all cases, the identification of the targeting event may be facilitated by the use of one or more selectable marker genes that are contiguous with the targeting DNA, allowing for the selection of cells in which the exogenous DNA has integrated into the cell genome. The identification of the targeting event may also be facilitated by the use of one or more marker genes exhibiting the property of negative selection, such that the negatively selectable marker is linked to the exogenous DNA, but configured such that the negatively selectable marker flanks the targeting sequence, and such that a correct homologous recombination event with sequences in the host cell genome does not result in the stable integration of the negatively selectable marker. Markers useful for this purpose include the Herpes Simplex Virus thymidine kinase (TK) gene or the bacterial xanthine-guanine phosphoribosyl-transferase (gpt) gene.

The gene targeting or gene activation techniques which can be used in accordance with this aspect of the invention are more particularly described in U.S. Patent No. 5,272,071 to Chappel; U.S. Patent No. 5,578,461 to Sherwin et al.; International Application No. PCT/US92/09627 (WO93/09222) by Selden et al.; and International Application No. PCT/US90/06436 (WO91/06667) by Skoultchi et al., each of which is incorporated by reference herein in its entirety.

#### 4.9 TRANSGENIC ANIMALS

In preferred methods to determine biological functions of the polypeptides of the invention in vivo, one or more genes provided by the invention are either over expressed or inactivated in the germ line of animals using homologous recombination [Capecchi, Science 244:1288-1292 (1989)]. Animals in which the gene is over expressed, under the regulatory control of exogenous or endogenous promoter elements, are known as transgenic animals. Animals in which an endogenous gene has been inactivated by homologous recombination are referred to as "knockout" animals. Knockout animals, preferably non-human mammals, can be prepared as described in U.S. Patent No. 5,557,032, incorporated herein by reference.

Transgenic animals are useful to determine the roles polypeptides of the invention play in biological processes, and preferably in disease states. Transgenic animals are useful as model systems to identify compounds that modulate lipid metabolism. Transgenic animals, preferably non-human mammals, are produced using methods as described in U.S. Patent No 5,489,743 and PCT Publication No. WO94/28122, incorporated herein by reference.

Transgenic animals can be prepared wherein all or part of a promoter of the polynucleotides of the invention is either activated or inactivated to alter the level of expression of the polypeptides of the invention. Inactivation can be carried out using homologous recombination methods described above. Activation can be achieved by supplementing or even replacing the homologous promoter to provide for increased protein expression. The

homologous promoter can be supplemented by insertion of one or more heterologous enhancer elements known to confer promoter activation in a particular tissue.

The polynucleotides of the present invention also make possible the development, through, *e.g.*, homologous recombination or knock out strategies, of animals that fail to express polypeptides of the invention or that express a variant polypeptide. Such animals are useful as models for studying the *in vivo* activities of polypeptide as well as for studying modulators of the polypeptides of the invention.

In preferred methods to determine biological functions of the polypeptides of the invention *in vivo*, one or more genes provided by the invention are either over expressed or inactivated in the germ line of animals using homologous recombination [Capecchi, Science 244:1288-1292 (1989)]. Animals in which the gene is over expressed, under the regulatory control of exogenous or endogenous promoter elements, are known as transgenic animals. Animals in which an endogenous gene has been inactivated by homologous recombination are referred to as "knockout" animals. Knockout animals, preferably non-human mammals, can be prepared as described in U.S. Patent No. 5,557,032, incorporated herein by reference. Transgenic animals are useful to determine the roles polypeptides of the invention play in biological processes, and preferably in disease states. Transgenic animals are useful as model systems to identify compounds that modulate lipid metabolism. Transgenic animals, preferably non-human mammals, are produced using methods as described in U.S. Patent No 5,489,743 and PCT Publication No. WO94/28122, incorporated herein by reference.

Transgenic animals can be prepared wherein all or part of the polynucleotides of the invention promoter is either activated or inactivated to alter the level of expression of the polypeptides of the invention. Inactivation can be carried out using homologous recombination methods described above. Activation can be achieved by supplementing or even replacing the homologous promoter to provide for increased protein expression. The homologous promoter can be supplemented by insertion of one or more heterologous enhancer elements known to confer promoter activation in a particular tissue.

#### 4.10 USES AND BIOLOGICAL ACTIVITY

The polynucleotides and proteins of the present invention are expected to exhibit one or more of the uses or biological activities (including those associated with assays cited herein) identified herein. Uses or activities described for proteins of the present invention may be provided by administration or use of such proteins or of polynucleotides encoding such proteins (such as, for example, in gene therapies or vectors suitable for introduction of DNA). The mechanism underlying the particular condition or pathology will dictate whether the

polypeptides of the invention, the polynucleotides of the invention or modulators (activators or inhibitors) thereof would be beneficial to the subject in need of treatment. Thus, "therapeutic compositions of the invention" include compositions comprising isolated polynucleotides (including recombinant DNA molecules, cloned genes and degenerate variants thereof) or polypeptides of the invention (including full length protein, mature protein and truncations or domains thereof), or compounds and other substances that modulate the overall activity of the target gene products, either at the level of target gene/protein expression or target protein activity. Such modulators include polypeptides, analogs, (variants), including fragments and fusion proteins, antibodies and other binding proteins; chemical compounds that directly or indirectly activate or inhibit the polypeptides of the invention (identified, *e.g.*, via drug screening assays as described herein); antisense polynucleotides and polynucleotides suitable for triple helix formation; and in particular antibodies or other binding partners that specifically recognize one or more epitopes of the polypeptides of the invention.

The polypeptides of the present invention may likewise be involved in cellular activation or in one of the other physiological pathways described herein.

#### 4.10.1 RESEARCH USES AND UTILITIES

The polynucleotides provided by the present invention can be used by the research community for various purposes. The polynucleotides can be used to express recombinant protein for analysis, characterization or therapeutic use; as markers for tissues in which the corresponding protein is preferentially expressed (either constitutively or at a particular stage of tissue differentiation or development or in disease states); as molecular weight markers on gels; as chromosome markers or tags (when labeled) to identify chromosomes or to map related gene positions; to compare with endogenous DNA sequences in patients to identify potential genetic disorders; as probes to hybridize and thus discover novel, related DNA sequences; as a source of information to derive PCR primers for genetic fingerprinting; as a probe to "subtract-out" known sequences in the process of discovering other novel polynucleotides; for selecting and making oligomers for attachment to a "gene chip" or other support, including for examination of expression patterns; to raise anti-protein antibodies using DNA immunization techniques; and as an antigen to raise anti-DNA antibodies or elicit another immune response. Where the polynucleotide encodes a protein which binds or potentially binds to another protein (such as, for example, in a receptor-ligand interaction), the polynucleotide can also be used in interaction trap assays (such as, for example, that described in Gyuris et al., Cell 75:791-803 (1993)) to identify polynucleotides encoding the other protein with which binding occurs or to identify inhibitors of the binding interaction.

The polypeptides provided by the present invention can similarly be used in assays to determine biological activity, including in a panel of multiple proteins for high-throughput screening; to raise antibodies or to elicit another immune response; as a reagent (including the labeled reagent) in assays designed to quantitatively determine levels of the protein (or its receptor) in biological fluids; as markers for tissues in which the corresponding polypeptide is preferentially expressed (either constitutively or at a particular stage of tissue differentiation or development or in a disease state); and, of course, to isolate correlative receptors or ligands. Proteins involved in these binding interactions can also be used to screen for peptide or small molecule inhibitors or agonists of the binding interaction.

Any or all of these research utilities are capable of being developed into reagent grade or kit format for commercialization as research products.

Methods for performing the uses listed above are well known to those skilled in the art. References disclosing such methods include without limitation "Molecular Cloning: A Laboratory Manual", 2d ed., Cold Spring Harbor Laboratory Press, Sambrook, J., E. F. Fritsch and T. Maniatis eds., 1989, and "Methods in Enzymology: Guide to Molecular Cloning Techniques", Academic Press, Berger, S. L. and A. R. Kimmel eds., 1987.

#### 4.10.2 NUTRITIONAL USES

Polynucleotides and polypeptides of the present invention can also be used as nutritional sources or supplements. Such uses include without limitation use as a protein or amino acid supplement, use as a carbon source, use as a nitrogen source and use as a source of carbohydrate. In such cases the polypeptide or polynucleotide of the invention can be added to the feed of a particular organism or can be administered as a separate solid or liquid preparation, such as in the form of powder, pills, solutions, suspensions or capsules. In the case of microorganisms, the polypeptide or polynucleotide of the invention can be added to the medium in or on which the microorganism is cultured.

#### 4.10.3 CYTOKINE AND CELL PROLIFERATION/DIFFERENTIATION ACTIVITY

A polypeptide of the present invention may exhibit activity relating to cytokine, cell proliferation (either inducing or inhibiting) or cell differentiation (either inducing or inhibiting) activity or may induce production of other cytokines in certain cell populations. A polynucleotide of the invention can encode a polypeptide exhibiting such attributes. Many protein factors discovered to date, including all known cytokines, have exhibited activity in one or more factor-dependent cell proliferation assays, and hence the assays serve as a convenient

confirmation of cytokine activity. The activity of therapeutic compositions of the present invention is evidenced by any one of a number of routine factor dependent cell proliferation assays for cell lines including, without limitation, 32D, DA2, DA1G, T10, B9, B9/11, BaF3, MC9/G, M+(preB M+), 2E8, RB5, DA1, 123, T1165, HT2, CTLL2, TF-1, Mo7e, CMK,

5 HUVEC, and Caco. Therapeutic compositions of the invention can be used in the following:

Assays for T-cell or thymocyte proliferation include without limitation those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3, *In Vitro* assays for Mouse Lymphocyte Function 3.1-3.19; Chapter 7, Immunologic studies in  
10 Humans); Takai et al., J. Immunol. 137:3494-3500, 1986; Bertagnolli et al., J. Immunol. 145:1706-1712, 1990; Bertagnolli et al., Cellular Immunology 133:327-341, 1991; Bertagnolli, et al., I. Immunol. 149:3778-3783, 1992; Bowman et al., I. Immunol. 152:1756-1761, 1994.

Assays for cytokine production and/or proliferation of spleen cells, lymph node cells or thymocytes include, without limitation, those described in: Polyclonal T cell stimulation,  
15 Kruisbeek, A. M. and Shevach, E. M. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1 pp. 3.12.1-3.12.14, John Wiley and Sons, Toronto. 1994; and Measurement of mouse and human interleukin- $\gamma$ , Schreiber, R. D. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1 pp. 6.8.1-6.8.8, John Wiley and Sons, Toronto. 1994.

Assays for proliferation and differentiation of hematopoietic and lymphopoietic cells  
20 include, without limitation, those described in: Measurement of Human and Murine Interleukin 2 and Interleukin 4, Bottomly, K., Davis, L. S. and Lipsky, P. E. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1 pp. 6.3.1-6.3.12, John Wiley and Sons, Toronto. 1991; deVries et al., J. Exp. Med. 173:1205-1211, 1991; Moreau et al., Nature 336:690-692, 1988; Greenberger et al., Proc. Natl. Acad. Sci. U.S.A. 80:2931-2938, 1983; Measurement of mouse  
25 and human interleukin 6--Nordan, R. In Current Protocols in Immunology. J. E. Coligan eds. Vol 1 pp. 6.6.1-6.6.5, John Wiley and Sons, Toronto. 1991; Smith et al., Proc. Natl. Acad. Sci. U.S.A. 83:1857-1861, 1986; Measurement of human Interleukin 11--Bennett, F., Giannotti, J., Clark, S. C. and Turner, K. J. In Current Protocols in Immunology. J. E. Coligan eds. Vol 1 pp. 6.15.1 John Wiley and Sons, Toronto. 1991; Measurement of mouse and human Interleukin  
30 9--Ciarletta, A., Giannotti, J., Clark, S. C. and Turner, K. J. In Current Protocols in Immunology. J. E. Coligan eds. Vol 1 pp. 6.13.1, John Wiley and Sons, Toronto. 1991.

Assays for T-cell clone responses to antigens (which will identify, among others, proteins that affect APC-T cell interactions as well as direct T-cell effects by measuring proliferation and cytokine production) include, without limitation, those described in: Current Protocols in  
35 Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W Strober,

Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3, *In Vitro* assays for Mouse Lymphocyte Function; Chapter 6, Cytokines and their cellular receptors; Chapter 7, Immunologic studies in Humans); Weinberger et al., Proc. Natl. Acad. Sci. USA 77:6091-6095, 1980; Weinberger et al., Eur. J. Immun. 11:405-411, 1981; Takai et al., J. Immunol. 137:3494-3500, 1986; Takai et al., J. Immunol. 140:508-512, 1988.

#### 4.10.4 STEM CELL GROWTH FACTOR ACTIVITY

A polypeptide of the present invention may exhibit stem cell growth factor activity and be involved in the proliferation, differentiation and survival of pluripotent and totipotent stem cells including primordial germ cells, embryonic stem cells, hematopoietic stem cells and/or germ line stem cells. Administration of the polypeptide of the invention to stem cells *in vivo* or *ex vivo* is expected to maintain and expand cell populations in a totipotent or pluripotent state which would be useful for re-engineering damaged or diseased tissues, transplantation, manufacture of bio-pharmaceuticals and the development of bio-sensors. The ability to produce large quantities of human cells has important working applications for the production of human proteins which currently must be obtained from non-human sources or donors, implantation of cells to treat diseases such as Parkinson's, Alzheimer's and other neurodegenerative diseases; tissues for grafting such as bone marrow, skin, cartilage, tendons, bone, muscle (including cardiac muscle), blood vessels, cornea, neural cells, gastrointestinal cells and others; and organs for transplantation such as kidney, liver, pancreas (including islet cells), heart and lung.

It is contemplated that multiple different exogenous growth factors and/or cytokines may be administered in combination with the polypeptide of the invention to achieve the desired effect, including any of the growth factors listed herein, other stem cell maintenance factors, and specifically including stem cell factor (SCF), leukemia inhibitory factor (LIF), Flt-3 ligand (Flt-3L), any of the interleukins, recombinant soluble IL-6 receptor fused to IL-6, macrophage inflammatory protein 1-alpha (MIP-1-alpha), G-CSF, GM-CSF, thrombopoietin (TPO), platelet factor 4 (PF-4), platelet-derived growth factor (PDGF), neural growth factors and basic fibroblast growth factor (bFGF).

Since totipotent stem cells can give rise to virtually any mature cell type, expansion of these cells in culture will facilitate the production of large quantities of mature cells. Techniques for culturing stem cells are known in the art and administration of polypeptides of the invention, optionally with other growth factors and/or cytokines, is expected to enhance the survival and proliferation of the stem cell populations. This can be accomplished by direct administration of the polypeptide of the invention to the culture medium. Alternatively, stroma cells transfected with a polynucleotide that encodes for the polypeptide of the invention can be used as a feeder



layer for the stem cell populations in culture or in vivo. Stromal support cells for feeder layers may include embryonic bone marrow fibroblasts, bone marrow stromal cells, fetal liver cells, or cultured embryonic fibroblasts (see U.S. Patent No. 5,690,926).

Stem cells themselves can be transfected with a polynucleotide of the invention to induce autocrine expression of the polypeptide of the invention. This will allow for generation of undifferentiated totipotent/pluripotent stem cell lines that are useful as is or that can then be differentiated into the desired mature cell types. These stable cell lines can also serve as a source of undifferentiated totipotent/pluripotent mRNA to create cDNA libraries and templates for polymerase chain reaction experiments. These studies would allow for the isolation and identification of differentially expressed genes in stem cell populations that regulate stem cell proliferation and/or maintenance.

Expansion and maintenance of totipotent stem cell populations will be useful in the treatment of many pathological conditions. For example, polypeptides of the present invention may be used to manipulate stem cells in culture to give rise to neuroepithelial cells that can be used to augment or replace cells damaged by illness, autoimmune disease, accidental damage or genetic disorders. The polypeptide of the invention may be useful for inducing the proliferation of neural cells and for the regeneration of nerve and brain tissue, *i.e.* for the treatment of central and peripheral nervous system diseases and neuropathies, as well as mechanical and traumatic disorders which involve degeneration, death or trauma to neural cells or nerve tissue. In addition, the expanded stem cell populations can also be genetically altered for gene therapy purposes and to decrease host rejection of replacement tissues after grafting or implantation.

Expression of the polypeptide of the invention and its effect on stem cells can also be manipulated to achieve controlled differentiation of the stem cells into more differentiated cell types. A broadly applicable method of obtaining pure populations of a specific differentiated cell type from undifferentiated stem cell populations involves the use of a cell-type specific promoter driving a selectable marker. The selectable marker allows only cells of the desired type to survive. For example, stem cells can be induced to differentiate into cardiomyocytes (Wobus et al., *Differentiation*, 48: 173-182, (1991); Klug et al., *J. Clin. Invest.*, 98(1): 216-224, (1998)) or skeletal muscle cells (Browder, L. W. In: *Principles of Tissue Engineering* eds. Lanza et al., Academic Press (1997)). Alternatively, directed differentiation of stem cells can be accomplished by culturing the stem cells in the presence of a differentiation factor such as retinoic acid and an antagonist of the polypeptide of the invention which would inhibit the effects of endogenous stem cell factor activity and allow differentiation to proceed.

*In vitro* cultures of stem cells can be used to determine if the polypeptide of the invention exhibits stem cell growth factor activity. Stem cells are isolated from any one of various cell

sources (including hematopoietic stem cells and embryonic stem cells) and cultured on a feeder layer, as described by Thompson et al. Proc. Natl. Acad. Sci, U.S.A., 92: 7844-7848 (1995), in the presence of the polypeptide of the invention alone or in combination with other growth factors or cytokines. The ability of the polypeptide of the invention to induce stem cells proliferation is determined by colony formation on semi-solid support *e.g.* as described by Bernstein et al., Blood, 77: 2316-2321 (1991).

#### 4.10.5 HEMATOPOIESIS REGULATING ACTIVITY

A polypeptide of the present invention may be involved in regulation of hematopoiesis and; consequently, in the treatment of myeloid or lymphoid cell disorders. Even marginal biological activity in support of colony forming cells or of factor-dependent cell lines indicates involvement in regulating hematopoiesis, *e.g.* in supporting the growth and proliferation of erythroid progenitor cells alone or in combination with other cytokines, thereby indicating utility, for example, in treating various anemias or for use in conjunction with irradiation/chemotherapy to stimulate the production of erythroid precursors and/or erythroid cells; in supporting the growth and proliferation of myeloid cells such as granulocytes and monocytes/macrophages (*i.e.*, traditional CSF activity) useful, for example, in conjunction with chemotherapy to prevent or treat consequent myelo-suppression; in supporting the growth and proliferation of megakaryocytes and consequently of platelets thereby allowing prevention or treatment of various platelet disorders such as thrombocytopenia, and generally for use in place of or complimentary to platelet transfusions; and/or in supporting the growth and proliferation of hematopoietic stem cells which are capable of maturing to any and all of the above-mentioned hematopoietic cells and therefore find therapeutic utility in various stem cell disorders (such as those usually treated with transplantation, including, without limitation, aplastic anemia and paroxysmal nocturnal hemoglobinuria), as well as in repopulating the stem cell compartment post irradiation/chemotherapy, either *in-vivo* or *ex-vivo* (*i.e.*, in conjunction with bone marrow transplantation or with peripheral progenitor cell transplantation (homologous or heterologous)) as normal cells or genetically manipulated for gene therapy.

Therapeutic compositions of the invention can be used in the following:

Suitable assays for proliferation and differentiation of various hematopoietic lines are cited above.

Assays for embryonic stem cell differentiation (which will identify, among others, proteins that influence embryonic differentiation hematopoiesis) include, without limitation, those described in: Johansson et al. Cellular Biology 15:141-151, 1995; Keller et al., Molecular and Cellular Biology 13:473-486, 1993; McClanahan et al., Blood 81:2903-2915, 1993.

Assays for stem cell survival and differentiation (which will identify, among others, proteins that regulate lympho-hematopoiesis) include, without limitation, those described in: Methylcellulose colony forming assays, Freshney, M. G. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 265-268, Wiley-Liss, Inc., New York, N.Y. 1994; Hirayama et al., Proc. Natl. Acad. Sci. USA 89:5907-5911, 1992; Primitive hematopoietic colony forming cells with high proliferative potential, McNiece, I. K. and Briddell, R. A. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 23-39, Wiley-Liss, Inc., New York, N.Y. 1994; Neben et al., *Experimental Hematology* 22:353-359, 1994; Cobblestone area forming cell assay, Ploemacher, R. E. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 1-21, Wiley-Liss, Inc., New York, N.Y. 1994; Long term bone marrow cultures in the presence of stromal cells, Spooncer, E., Dexter, M. and Allen, T. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 163-179, Wiley-Liss, Inc., New York, N.Y. 1994; Long term culture initiating cell assay, Sutherland, H. J. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 139-162, Wiley-Liss, Inc., New York, N.Y. 1994.

#### 4.10.6 TISSUE GROWTH ACTIVITY

A polypeptide of the present invention also may be involved in bone, cartilage, tendon, ligament and/or nerve tissue growth or regeneration, as well as in wound healing and tissue repair and replacement, and in healing of burns, incisions and ulcers.

A polypeptide of the present invention which induces cartilage and/or bone growth in circumstances where bone is not normally formed, has application in the healing of bone fractures and cartilage damage or defects in humans and other animals. Compositions of a polypeptide, antibody, binding partner, or other modulator of the invention may have prophylactic use in closed as well as open fracture reduction and also in the improved fixation of artificial joints. De novo bone formation induced by an osteogenic agent contributes to the repair of congenital, trauma induced, or oncologic resection induced craniofacial defects, and also is useful in cosmetic plastic surgery.

A polypeptide of this invention may also be involved in attracting bone-forming cells, stimulating growth of bone-forming cells, or inducing differentiation of progenitors of bone-forming cells. Treatment of osteoporosis, osteoarthritis, bone degenerative disorders, or periodontal disease, such as through stimulation of bone and/or cartilage repair or by blocking inflammation or processes of tissue destruction (collagenase activity, osteoclast activity, etc.) mediated by inflammatory processes may also be possible using the composition of the invention.

Another category of tissue regeneration activity that may involve the polypeptide of the present invention is tendon/ligament formation. Induction of tendon/ligament-like tissue or other tissue formation in circumstances where such tissue is not normally formed, has application in the healing of tendon or ligament tears, deformities and other tendon or ligament defects in humans and other animals. Such a preparation employing a tendon/ligament-like tissue inducing protein may have prophylactic use in preventing damage to tendon or ligament tissue, as well as use in the improved fixation of tendon or ligament to bone or other tissues, and in repairing defects to tendon or ligament tissue. De novo tendon/ligament-like tissue formation induced by a composition of the present invention contributes to the repair of congenital, trauma induced, or other tendon or ligament defects of other origin, and is also useful in cosmetic plastic surgery for attachment or repair of tendons or ligaments. The compositions of the present invention may provide environment to attract tendon- or ligament-forming cells, stimulate growth of tendon- or ligament-forming cells, induce differentiation of progenitors of tendon- or ligament-forming cells, or induce growth of tendon/ligament cells or progenitors *ex vivo* for return *in vivo* to effect tissue repair. The compositions of the invention may also be useful in the treatment of tendinitis, carpal tunnel syndrome and other tendon or ligament defects. The compositions may also include an appropriate matrix and/or sequestering agent as a carrier as is well known in the art.

The compositions of the present invention may also be useful for proliferation of neural cells and for regeneration of nerve and brain tissue, *i.e.* for the treatment of central and peripheral nervous system diseases and neuropathies, as well as mechanical and traumatic disorders, which involve degeneration, death or trauma to neural cells or nerve tissue. More specifically, a composition may be used in the treatment of diseases of the peripheral nervous system, such as peripheral nerve injuries, peripheral neuropathy and localized neuropathies, and central nervous system diseases, such as Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis, and Shy-Drager syndrome. Further conditions that may be treated in accordance with the present invention include mechanical and traumatic disorders, such as spinal cord disorders, head trauma and cerebrovascular diseases such as stroke. Peripheral neuropathies resulting from chemotherapy or other medical therapies may also be treatable using a composition of the invention.

Compositions of the invention may also be useful to promote better or faster closure of non-healing wounds, including without limitation pressure ulcers, ulcers associated with vascular insufficiency, surgical and traumatic wounds, and the like.

Compositions of the present invention may also be involved in the generation or regeneration of other tissues, such as organs (including, for example, pancreas, liver, intestine,

kidney, skin, endothelium), muscle (smooth, skeletal or cardiac) and vascular (including vascular endothelium) tissue, or for promoting the growth of cells comprising such tissues. Part of the desired effects may be by inhibition or modulation of fibrotic scarring may allow normal tissue to regenerate. A polypeptide of the present invention may also exhibit angiogenic activity.

5 A composition of the present invention may also be useful for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion injury in various tissues, and conditions resulting from systemic cytokine damage.

A composition of the present invention may also be useful for promoting or inhibiting differentiation of tissues described above from precursor tissues or cells; or for inhibiting the  
10 growth of tissues described above.

Therapeutic compositions of the invention can be used in the following:

Assays for tissue generation activity include, without limitation, those described in: International Patent Publication No. WO95/16035 (bone, cartilage, tendon); International Patent Publication No. WO95/05846 (nerve, neuronal); International Patent Publication No.

15 WO91/07491 (skin, endothelium).

Assays for wound healing activity include, without limitation, those described in: Winter, Epidermal Wound Healing, pps. 71-112 (Maibach, H. I. and Rovee, D. T., eds.), Year Book Medical Publishers, Inc., Chicago, as modified by Eaglstein and Mertz, J. Invest. Dermatol 71:382-84 (1978).

#### 20 4.10.7 IMMUNE STIMULATING OR SUPPRESSING ACTIVITY

A polypeptide of the present invention may also exhibit immune stimulating or immune suppressing activity, including without limitation the activities for which assays are described herein. A polynucleotide of the invention can encode a polypeptide exhibiting such activities. A  
25 protein may be useful in the treatment of various immune deficiencies and disorders (including severe combined immunodeficiency (SCID)), *e.g.*, in regulating (up or down) growth and proliferation of T and/or B lymphocytes, as well as effecting the cytolytic activity of NK cells and other cell populations. These immune deficiencies may be genetic or be caused by viral (*e.g.*, HIV) as well as bacterial or fungal infections, or may result from autoimmune disorders. More  
30 specifically, infectious diseases caused by viral, bacterial, fungal or other infection may be treatable using a protein of the present invention, including infections by HIV, hepatitis viruses, herpes viruses, mycobacteria, Leishmania spp., malaria spp. and various fungal infections such as candidiasis. Of course, in this regard, proteins of the present invention may also be useful where a boost to the immune system generally may be desirable, *i.e.*, in the treatment of cancer.

Autoimmune disorders which may be treated using a protein of the present invention include, for example, connective tissue disease, multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary inflammation, Guillain-Barre syndrome, autoimmune thyroiditis, insulin dependent diabetes mellitus, myasthenia gravis, graft-versus-host disease and autoimmune inflammatory eye disease. Such a protein (or antagonists thereof, including antibodies) of the present invention may also be useful in the treatment of allergic reactions and conditions (*e.g.*, anaphylaxis, serum sickness, drug reactions, food allergies, insect venom allergies, mastocytosis, allergic rhinitis, hypersensitivity pneumonitis, urticaria, angioedema, eczema, atopic dermatitis, allergic contact dermatitis, erythema multiforme, Stevens-Johnson syndrome, allergic conjunctivitis, atopic keratoconjunctivitis, venereal keratoconjunctivitis, giant papillary conjunctivitis and contact allergies), such as asthma (particularly allergic asthma) or other respiratory problems. Other conditions, in which immune suppression is desired (including, for example, organ transplantation), may also be treatable using a protein (or antagonists thereof) of the present invention. The therapeutic effects of the polypeptides or antagonists thereof on allergic reactions can be evaluated by *in vivo* animals models such as the cumulative contact enhancement test (Lastbom et al., Toxicology 125: 59-66, 1998), skin prick test (Hoffmann et al., Allergy 54: 446-54, 1999), guinea pig skin sensitization test (Vohr et al., Arch. Toxicol. 73: 501-9), and murine local lymph node assay (Kimber et al., J. Toxicol. Environ. Health 53: 563-79).

Using the proteins of the invention it may also be possible to modulate immune responses, in a number of ways. Down regulation may be in the form of inhibiting or blocking an immune response already in progress or may involve preventing the induction of an immune response. The functions of activated T cells may be inhibited by suppressing T cell responses or by inducing specific tolerance in T cells, or both. Immunosuppression of T cell responses is generally an active, non-antigen-specific, process which requires continuous exposure of the T cells to the suppressive agent. Tolerance, which involves inducing non-responsiveness or anergy in T cells, is distinguishable from immunosuppression in that it is generally antigen-specific and persists after exposure to the tolerizing agent has ceased. Operationally, tolerance can be demonstrated by the lack of a T cell response upon reexposure to specific antigen in the absence of the tolerizing agent.

Down regulating or preventing one or more antigen functions (including without limitation B lymphocyte antigen functions (such as, for example, B7)), *e.g.*, preventing high level lymphokine synthesis by activated T cells, will be useful in situations of tissue, skin and organ transplantation and in graft-versus-host disease (GVHD). For example, blockage of T cell function should result in reduced tissue destruction in tissue transplantation. Typically, in tissue

transplants, rejection of the transplant is initiated through its recognition as foreign by T cells, followed by an immune reaction that destroys the transplant. The administration of a therapeutic composition of the invention may prevent cytokine synthesis by immune cells, such as T cells, and thus acts as an immunosuppressant. Moreover, a lack of costimulation may also be sufficient to anergize the T cells, thereby inducing tolerance in a subject. Induction of long-term tolerance by B lymphocyte antigen-blocking reagents may avoid the necessity of repeated administration of these blocking reagents. To achieve sufficient immunosuppression or tolerance in a subject, it may also be necessary to block the function of a combination of B lymphocyte antigens.

The efficacy of particular therapeutic compositions in preventing organ transplant rejection or GVHD can be assessed using animal models that are predictive of efficacy in humans. Examples of appropriate systems which can be used include allogeneic cardiac grafts in rats and xenogeneic pancreatic islet cell grafts in mice, both of which have been used to examine the immunosuppressive effects of CTLA4Ig fusion proteins in vivo as described in Lenschow et al., Science 257:789-792 (1992) and Turka et al., Proc. Natl. Acad. Sci USA, 89:11102-11105 (1992). In addition, murine models of GVHD (see Paul ed., Fundamental Immunology, Raven Press, New York, 1989, pp. 846-847) can be used to determine the effect of therapeutic compositions of the invention on the development of that disease.

Blocking antigen function may also be therapeutically useful for treating autoimmune diseases. Many autoimmune disorders are the result of inappropriate activation of T cells that are reactive against self-tissue and which promote the production of cytokines and autoantibodies involved in the pathology of the diseases. Preventing the activation of autoreactive T cells may reduce or eliminate disease symptoms. Administration of reagents which block stimulation of T cells can be used to inhibit T cell activation and prevent production of autoantibodies or T cell-derived cytokines which may be involved in the disease process. Additionally, blocking reagents may induce antigen-specific tolerance of autoreactive T cells which could lead to long-term relief from the disease. The efficacy of blocking reagents in preventing or alleviating autoimmune disorders can be determined using a number of well-characterized animal models of human autoimmune diseases. Examples include murine experimental autoimmune encephalitis, systemic lupus erythmatosis in MRL/lpr/lpr mice or NZB hybrid mice, murine autoimmune collagen arthritis, diabetes mellitus in NOD mice and BB rats, and murine experimental myasthenia gravis (see Paul ed., Fundamental Immunology, Raven Press, New York, 1989, pp. 840-856).

Upregulation of an antigen function (e.g., a B lymphocyte antigen function), as a means of up regulating immune responses, may also be useful in therapy. Upregulation of immune

responses may be in the form of enhancing an existing immune response or eliciting an initial immune response. For example, enhancing an immune response may be useful in cases of viral infection, including systemic viral diseases such as influenza, the common cold, and encephalitis.

Alternatively, anti-viral immune responses may be enhanced in an infected patient by removing T cells from the patient, costimulating the T cells in vitro with viral antigen-pulsed APCs either expressing a peptide of the present invention or together with a stimulatory form of a soluble peptide of the present invention and reintroducing the in vitro activated T cells into the patient. Another method of enhancing anti-viral immune responses would be to isolate infected cells from a patient, transfect them with a nucleic acid encoding a protein of the present invention as described herein such that the cells express all or a portion of the protein on their surface, and reintroduce the transfected cells into the patient. The infected cells would now be capable of delivering a costimulatory signal to, and thereby activate, T cells in vivo.

A polypeptide of the present invention may provide the necessary stimulation signal to T cells to induce a T cell mediated immune response against the transfected tumor cells. In addition, tumor cells which lack MHC class I or MHC class II molecules, or which fail to reexpress sufficient mounts of MHC class I or MHC class II molecules, can be transfected with nucleic acid encoding all or a portion of (*e.g.*, a cytoplasmic-domain truncated portion) of an MHC class I alpha chain protein and  $\beta_2$  microglobulin protein or an MHC class II alpha chain protein and an MHC class II beta chain protein to thereby express MHC class I or MHC class II proteins on the cell surface. Expression of the appropriate class I or class II MHC in conjunction with a peptide having the activity of a B lymphocyte antigen (*e.g.*, B7-1, B7-2, B7-3) induces a T cell mediated immune response against the transfected tumor cell. Optionally, a gene encoding an antisense construct which blocks expression of an MHC class II associated protein, such as the invariant chain, can also be cotransfected with a DNA encoding a peptide having the activity of a B lymphocyte antigen to promote presentation of tumor associated antigens and induce tumor specific immunity. Thus, the induction of a T cell mediated immune response in a human subject may be sufficient to overcome tumor-specific tolerance in the subject.

The activity of a protein of the invention may, among other means, be measured by the following methods:

Suitable assays for thymocyte or splenocyte cytotoxicity include, without limitation, those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3, In Vitro assays for Mouse Lymphocyte Function 3.1-3.19; Chapter 7, Immunologic studies in Humans); Herrmann et al., Proc. Natl. Acad. Sci. USA



78:2488-2492, 1981; Herrmann et al., J. Immunol. 128:1968-1974, 1982; Handa et al., J. Immunol. 135:1564-1572, 1985; Takai et al., J. Immunol. 137:3494-3500, 1986; Takai et al., J. Immunol. 140:508-512, 1988; Bowman et al., J. Virology 61:1992-1998; Bertagnolli et al., Cellular Immunology 133:327-341, 1991; Brown et al., J. Immunol. 153:3079-3092, 1994.

5 Assays for T-cell-dependent immunoglobulin responses and isotype switching (which will identify, among others, proteins that modulate T-cell dependent antibody responses and that affect Th1/Th2 profiles) include, without limitation, those described in: Maliszewski, J. Immunol. 144:3028-3033, 1990; and Assays for B cell function: In vitro antibody production, Mond, J. J. and Brunswick, M. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1  
10 pp. 3.8.1-3.8.16, John Wiley and Sons, Toronto. 1994.

Mixed lymphocyte reaction (MLR) assays (which will identify, among others, proteins that generate predominantly Th1 and CTL responses) include, without limitation, those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3,  
15 In Vitro assays for Mouse Lymphocyte Function 3.1-3.19; Chapter 7, Immunologic studies in Humans); Takai et al., J. Immunol. 137:3494-3500, 1986; Takai et al., J. Immunol. 140:508-512, 1988; Bertagnolli et al., J. Immunol. 149:3778-3783, 1992.

Dendritic cell-dependent assays (which will identify, among others, proteins expressed by dendritic cells that activate naive T-cells) include, without limitation, those described in:  
20 Guery et al., J. Immunol. 134:536-544, 1995; Inaba et al., Journal of Experimental Medicine 173:549-559, 1991; Macatonia et al., Journal of Immunology 154:5071-5079, 1995; Porgador et al., Journal of Experimental Medicine 182:255-260, 1995; Nair et al., Journal of Virology 67:4062-4069, 1993; Huang et al., Science 264:961-965, 1994; Macatonia et al., Journal of Experimental Medicine 169:1255-1264, 1989; Bhardwaj et al., Journal of Clinical Investigation  
25 94:797-807, 1994; and Inaba et al., Journal of Experimental Medicine 172:631-640, 1990.

Assays for lymphocyte survival/apoptosis (which will identify, among others, proteins that prevent apoptosis after superantigen induction and proteins that regulate lymphocyte homeostasis) include, without limitation, those described in: Darzynkiewicz et al., Cytometry 13:795-808, 1992; Gorczyca et al., Leukemia 7:659-670, 1993; Gorczyca et al., Cancer Research  
30 53:1945-1951, 1993; Itoh et al., Cell 66:233-243, 1991; Zacharchuk, Journal of Immunology 145:4037-4045, 1990; Zamai et al., Cytometry 14:891-897, 1993; Gorczyca et al., International Journal of Oncology 1:639-648, 1992.

Assays for proteins that influence early steps of T-cell commitment and development include, without limitation, those described in: Antica et al., Blood 84:111-117, 1994; Fine et

al., Cellular Immunology 155:111-122, 1994; Galy et al., Blood 85:2770-2778, 1995; Toki et al., Proc. Nat. Acad. Sci. USA 88:7548-7551, 1991.

#### 4.10.8 ACTIVIN/INHIBIN ACTIVITY

5 A polypeptide of the present invention may also exhibit activin- or inhibin-related activities. A polynucleotide of the invention may encode a polypeptide exhibiting such characteristics. Inhibins are characterized by their ability to inhibit the release of follicle stimulating hormone (FSH), while activins are characterized by their ability to stimulate the release of follicle stimulating hormone (FSH). Thus, a polypeptide of the present invention,  
10 alone or in heterodimers with a member of the inhibin family, may be useful as a contraceptive based on the ability of inhibins to decrease fertility in female mammals and decrease spermatogenesis in male mammals. Administration of sufficient amounts of other inhibins can induce infertility in these mammals. Alternatively, the polypeptide of the invention, as a homodimer or as a heterodimer with other protein subunits of the inhibin group, may be useful as  
15 a fertility inducing therapeutic, based upon the ability of activin molecules in stimulating FSH release from cells of the anterior pituitary. See, for example, U.S. Pat. No. 4,798,885. A polypeptide of the invention may also be useful for advancement of the onset of fertility in sexually immature mammals, so as to increase the lifetime reproductive performance of domestic animals such as, but not limited to, cows, sheep and pigs.

20 The activity of a polypeptide of the invention may, among other means, be measured by the following methods.

Assays for activin/inhibin activity include, without limitation, those described in: Vale et al., Endocrinology 91:562-572, 1972; Ling et al., Nature 321:779-782, 1986; Vale et al., Nature 321:776-779, 1986; Mason et al., Nature 318:659-663, 1985; Forage et al., Proc. Natl. Acad. Sci.  
25 USA 83:3091-3095, 1986.

#### 4.10.9 CHEMOTACTIC/CHEMOKINETIC ACTIVITY

A polypeptide of the present invention may be involved in chemotactic or chemokinetic activity for mammalian cells, including, for example, monocytes, fibroblasts, neutrophils,  
30 T-cells, mast cells, eosinophils, epithelial and/or endothelial cells. A polynucleotide of the invention can encode a polypeptide exhibiting such attributes. Chemotactic and chemokinetic receptor activation can be used to mobilize or attract a desired cell population to a desired site of action. Chemotactic or chemokinetic compositions (e.g. proteins, antibodies, binding partners, or modulators of the invention) provide particular advantages in treatment of wounds and other  
35 trauma to tissues, as well as in treatment of localized infections. For example, attraction of

lymphocytes, monocytes or neutrophils to tumors or sites of infection may result in improved immune responses against the tumor or infecting agent.

A protein or peptide has chemotactic activity for a particular cell population if it can stimulate, directly or indirectly, the directed orientation or movement of such cell population.

Preferably, the protein or peptide has the ability to directly stimulate directed movement of cells. Whether a particular protein has chemotactic activity for a population of cells can be readily determined by employing such protein or peptide in any known assay for cell chemotaxis.

Therapeutic compositions of the invention can be used in the following:

Assays for chemotactic activity (which will identify proteins that induce or prevent chemotaxis) consist of assays that measure the ability of a protein to induce the migration of cells across a membrane as well as the ability of a protein to induce the adhesion of one cell population to another cell population. Suitable assays for movement and adhesion include, without limitation, those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Marguiles, E. M. Shevach, W. Strober; Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 6.12, Measurement of alpha and beta Chemokines 6.12.1-6.12.28; Taub et al. J. Clin. Invest. 95:1370-1376, 1995; Lind et al. APMIS 103:140-146, 1995; Muller et al Eur. J. Immunol. 25:1744-1748; Gruber et al. J. of Immunol. 152:5860-5867, 1994; Johnston et al. J. of Immunol. 153:1762-1768, 1994.

#### **4.10.10 HEMOSTATIC AND THROMBOLYTIC ACTIVITY**

A polypeptide of the invention may also be involved in hemostasis or thrombolysis or thrombosis. A polynucleotide of the invention can encode a polypeptide exhibiting such attributes. Compositions may be useful in treatment of various coagulation disorders (including hereditary disorders, such as hemophilias) or to enhance coagulation and other hemostatic events in treating wounds resulting from trauma, surgery or other causes. A composition of the invention may also be useful for dissolving or inhibiting formation of thromboses and for treatment and prevention of conditions resulting therefrom (such as, for example, infarction of cardiac and central nervous system vessels (*e.g.*, stroke).

Therapeutic compositions of the invention can be used in the following:

Assay for hemostatic and thrombolytic activity include, without limitation, those described in: Linet et al., J. Clin. Pharmacol. 26:131-140, 1986; Burdick et al., Thrombosis Res. 45:413-419, 1987; Humphrey et al., Fibrinolysis 5:71-79 (1991); Schaub, Prostaglandins 35:467-474, 1988.

#### **4.10.11 CANCER DIAGNOSIS AND THERAPY**

Polypeptides of the invention may be involved in cancer cell generation, proliferation or metastasis. Detection of the presence or amount of polynucleotides or polypeptides of the invention may be useful for the diagnosis and/or prognosis of one or more types of cancer. For example, the presence or increased expression of a polynucleotide/polypeptide of the invention may indicate a hereditary risk of cancer, a precancerous condition, or an ongoing malignancy. Conversely, a defect in the gene or absence of the polypeptide may be associated with a cancer condition. Identification of single nucleotide polymorphisms associated with cancer or a predisposition to cancer may also be useful for diagnosis or prognosis.

Cancer treatments promote tumor regression by inhibiting tumor cell proliferation, inhibiting angiogenesis (growth of new blood vessels that is necessary to support tumor growth) and/or prohibiting metastasis by reducing tumor cell motility or invasiveness. Therapeutic compositions of the invention may be effective in adult and pediatric oncology including in solid phase tumors/malignancies, locally advanced tumors, human soft tissue sarcomas, metastatic cancer, including lymphatic metastases, blood cell malignancies including multiple myeloma, acute and chronic leukemias, and lymphomas, head and neck cancers including mouth cancer, larynx cancer and thyroid cancer, lung cancers including small cell carcinoma and non-small cell cancers, breast cancers including small cell carcinoma and ductal carcinoma, gastrointestinal cancers including esophageal cancer, stomach cancer, colon cancer, colorectal cancer and polyps associated with colorectal neoplasia, pancreatic cancers, liver cancer, urologic cancers including bladder cancer and prostate cancer, malignancies of the female genital tract including ovarian carcinoma, uterine (including endometrial) cancers, and solid tumor in the ovarian follicle, kidney cancers including renal cell carcinoma, brain cancers including intrinsic brain tumors, neuroblastoma, astrocytic brain tumors, gliomas, metastatic tumor cell invasion in the central nervous system, bone cancers including osteomas, skin cancers including malignant melanoma, tumor progression of human skin keratinocytes, squamous cell carcinoma, basal cell carcinoma, hemangiopericytoma and Kaposi's sarcoma.

Polypeptides, polynucleotides, or modulators of polypeptides of the invention (including inhibitors and stimulators of the biological activity of the polypeptide of the invention) may be administered to treat cancer. Therapeutic compositions can be administered in therapeutically effective dosages alone or in combination with adjuvant cancer therapy such as surgery, chemotherapy, radiotherapy, thermotherapy, and laser therapy, and may provide a beneficial effect, *e.g.* reducing tumor size, slowing rate of tumor growth, inhibiting metastasis, or otherwise improving overall clinical condition, without necessarily eradicating the cancer.

The composition can also be administered in therapeutically effective amounts as a portion of an anti-cancer cocktail. An anti-cancer cocktail is a mixture of the polypeptide or

modulator of the invention with one or more anti-cancer drugs in addition to a pharmaceutically acceptable carrier for delivery. The use of anti-cancer cocktails as a cancer treatment is routine. Anti-cancer drugs that are well known in the art and can be used as a treatment in combination with the polypeptide or modulator of the invention include: Actinomycin D,

5 Aminogluthethimide, Asparaginase, Bleomycin, Busulfan, Carboplatin, Carmustine, Chlorambucil, Cisplatin (cis-DDP), Cyclophosphamide, Cytarabine HCl (Cytosine arabinoside), Dacarbazine, Dactinomycin, Daunorubicin HCl, Doxorubicin HCl, Estramustine phosphate sodium, Etoposide (V16-213), Floxuridine, 5-Fluorouracil (5-Fu), Flutamide, Hydroxyurea (hydroxycarbamide), Ifosfamide, Interferon Alpha-2a, Interferon Alpha-2b, Leuprolide acetate  
10 (LHRH-releasing factor analog), Lomustine, Mechlorethamine HCl (nitrogen mustard), Melphalan, Mercaptopurine, Mesna, Methotrexate (MTX), Mitomycin, Mitoxantrone HCl, Octreotide, Plicamycin, Procarbazine HCl, Streptozocin, Tamoxifen citrate, Thioguanine, Thiotepa, Vinblastine sulfate, Vincristine sulfate, Amsacrine, Azacitidine, Hexamethylmelamine, Interleukin-2, Mitoguazone, Pentostatin, Semustine, Teniposide, and Vindesine sulfate.

15 In addition, therapeutic compositions of the invention may be used for prophylactic treatment of cancer. There are hereditary conditions and/or environmental situations (*e.g.* exposure to carcinogens) known in the art that predispose an individual to developing cancers. Under these circumstances, it may be beneficial to treat these individuals with therapeutically effective doses of the polypeptide of the invention to reduce the risk of developing cancers.

20 *In vitro* models can be used to determine the effective doses of the polypeptide of the invention as a potential cancer treatment. These *in vitro* models include proliferation assays of cultured tumor cells, growth of cultured tumor cells in soft agar (see Freshney, (1987) Culture of Animal Cells: A Manual of Basic Technique, Wiley-Liss, New York, NY Ch 18 and Ch 21), tumor systems in nude mice as described in Giovanella et al., J. Natl. Can. Inst., 52: 921-30  
25 (1974), mobility and invasive potential of tumor cells in Boyden Chamber assays as described in Pilkington et al., Anticancer Res., 17: 4107-9 (1997), and angiogenesis assays such as induction of vascularization of the chick chorioallantoic membrane or induction of vascular endothelial cell migration as described in Ribatta et al., Intl. J. Dev. Biol., 40: 1189-97 (1999) and Li et al., Clin. Exp. Metastasis, 17:423-9 (1999), respectively. Suitable tumor cells lines are available,  
30 *e.g.* from American Type Tissue Culture Collection catalogs.

#### 4.10.12 RECEPTOR/LIGAND ACTIVITY

A polypeptide of the present invention may also demonstrate activity as receptor, receptor ligand or inhibitor or agonist of receptor/ligand interactions. A polynucleotide of the  
35 invention can encode a polypeptide exhibiting such characteristics. Examples of such receptors

and ligands include, without limitation, cytokine receptors and their ligands, receptor kinases and their ligands, receptor phosphatases and their ligands, receptors involved in cell-cell interactions and their ligands (including without limitation, cellular adhesion molecules (such as selectins, integrins and their ligands) and receptor/ligand pairs involved in antigen presentation, antigen recognition and development of cellular and humoral immune responses. Receptors and ligands are also useful for screening of potential peptide or small molecule inhibitors of the relevant receptor/ligand interaction. A protein of the present invention (including, without limitation, fragments of receptors and ligands) may themselves be useful as inhibitors of receptor/ligand interactions.

The activity of a polypeptide of the invention may, among other means, be measured by the following methods:

Suitable assays for receptor-ligand activity include without limitation those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley- Interscience (Chapter 7.28, Measurement of Cellular Adhesion under static conditions 7.28.1- 7.28.22), Takai et al., Proc. Natl. Acad. Sci. USA 84:6864-6868, 1987; Bierer et al., J. Exp. Med. 168:1145-1156, 1988; Rosenstein et al., J. Exp. Med. 169:149-160 1989; Stoltenborg et al., J. Immunol. Methods 175:59-68, 1994; Stitt et al., Cell 80:661-670, 1995.

By way of example, the polypeptides of the invention may be used as a receptor for a ligand(s) thereby transmitting the biological activity of that ligand(s). Ligands may be identified through binding assays, affinity chromatography, dihybrid screening assays, BIAcore assays, gel overlay assays, or other methods known in the art.

Studies characterizing drugs or proteins as agonist or antagonist or partial agonists or a partial antagonist require the use of other proteins as competing ligands. The polypeptides of the present invention or ligand(s) thereof may be labeled by being coupled to radioisotopes, colorimetric molecules or toxin molecules by conventional methods. ("Guide to Protein Purification" Murray P. Deutscher (ed) Methods in Enzymology Vol. 182 (1990) Academic Press, Inc. San Diego). Examples of radioisotopes include, but are not limited to, tritium and carbon-14. Examples of colorimetric molecules include, but are not limited to, fluorescent molecules such as fluorescamine, or rhodamine or other colorimetric molecules. Examples of toxins include, but are not limited, to ricin.

#### **4.10.13 DRUG SCREENING**

This invention is particularly useful for screening chemical compounds by using the novel polypeptides or binding fragments thereof in any of a variety of drug screening techniques.

“ The polypeptides or fragments employed in such a test may either be free in solution, affixed to a solid support, borne on a cell surface or located intracellularly. One method of drug screening utilizes eukaryotic or prokaryotic host cells which are stably transformed with recombinant nucleic acids expressing the polypeptide or a fragment thereof. Drugs are screened against such transformed cells in competitive binding assays. Such cells, either in viable or fixed form, can be used for standard binding assays. One may measure, for example, the formation of complexes between polypeptides of the invention or fragments and the agent being tested or examine the diminution in complex formation between the novel polypeptides and an appropriate cell line, which are well known in the art.

10 Sources for test compounds that may be screened for ability to bind to or modulate (*i.e.*, increase or decrease) the activity of polypeptides of the invention include (1) inorganic and organic chemical libraries, (2) natural product libraries, and (3) combinatorial libraries comprised of either random or mimetic peptides, oligonucleotides or organic molecules.

Chemical libraries may be readily synthesized or purchased from a number of commercial sources, and may include structural analogs of known compounds or compounds that are identified as "hits" or "leads" via natural product screening.

The sources of natural product libraries are microorganisms (including bacteria and fungi), animals, plants or other vegetation, or marine organisms, and libraries of mixtures for screening may be created by: (1) fermentation and extraction of broths from soil, plant or marine microorganisms or (2) extraction of the organisms themselves. Natural product libraries include polyketides, non-ribosomal peptides, and (non-naturally occurring) variants thereof. For a review, see *Science* 282:63-68 (1998).

Combinatorial libraries are composed of large numbers of peptides, oligonucleotides or organic compounds and can be readily prepared by traditional automated synthesis methods, PCR, cloning or proprietary synthetic methods. Of particular interest are peptide and oligonucleotide combinatorial libraries. Still other libraries of interest include peptide, protein, peptidomimetic, multiparallel synthetic collection, recombinatorial, and polypeptide libraries. For a review of combinatorial chemistry and libraries created therefrom, see Myers, *Curr. Opin. Biotechnol.* 8:701-707 (1997). For reviews and examples of peptidomimetic libraries, see Al-Obeidi et al., *Mol. Biotechnol.*, 9(3):205-23 (1998); Hruby et al., *Curr Opin Chem Biol*, 1(1):114-19 (1997); Dorner et al., *Bioorg Med Chem*, 4(5):709-15 (1996) (alkylated dipeptides).

Identification of modulators through use of the various libraries described herein permits modification of the candidate "hit" (or "lead") to optimize the capacity of the "hit" to bind a polypeptide of the invention. The molecules identified in the binding assay are then tested for antagonist or agonist activity in *in vivo* tissue culture or animal models that are well known in the

art. In brief, the molecules are titrated into a plurality of cell cultures or animals and then tested for either cell/animal death or prolonged survival of the animal/cells.

The binding molecules thus identified may be complexed with toxins, *e.g.*, ricin or cholera, or with other compounds that are toxic to cells such as radioisotopes. The toxin-binding molecule complex is then targeted to a tumor or other cell by the specificity of the binding molecule for a polypeptide of the invention. Alternatively, the binding molecules may be complexed with imaging agents for targeting and imaging purposes.

#### 4.10.14 ASSAY FOR RECEPTOR ACTIVITY

The invention also provides methods to detect specific binding of a polypeptide *e.g.* a ligand or a receptor. The art provides numerous assays particularly useful for identifying previously unknown binding partners for receptor polypeptides of the invention. For example, expression cloning using mammalian or bacterial cells, or dihybrid screening assays can be used to identify polynucleotides encoding binding partners. As another example, affinity chromatography with the appropriate immobilized polypeptide of the invention can be used to isolate polypeptides that recognize and bind polypeptides of the invention. There are a number of different libraries used for the identification of compounds, and in particular small molecules, that modulate (*i.e.*, increase or decrease) biological activity of a polypeptide of the invention. Ligands for receptor polypeptides of the invention can also be identified by adding exogenous ligands, or cocktails of ligands to two cells populations that are genetically identical except for the expression of the receptor of the invention: one cell population expresses the receptor of the invention whereas the other does not. The responses of the two cell populations to the addition of ligand(s) are then compared. Alternatively, an expression library can be co-expressed with the polypeptide of the invention in cells and assayed for an autocrine response to identify potential ligand(s). As still another example, BIAcore assays, gel overlay assays, or other methods known in the art can be used to identify binding partner polypeptides, including, (1) organic and inorganic chemical libraries, (2) natural product libraries, and (3) combinatorial libraries comprised of random peptides, oligonucleotides or organic molecules.

The role of downstream intracellular signaling molecules in the signaling cascade of the polypeptide of the invention can be determined. For example, a chimeric protein in which the cytoplasmic domain of the polypeptide of the invention is fused to the extracellular portion of a protein, whose ligand has been identified, is produced in a host cell. The cell is then incubated with the ligand specific for the extracellular portion of the chimeric protein, thereby activating the chimeric receptor. Known downstream proteins involved in intracellular signaling can then



be assayed for expected modifications *i.e.* phosphorylation. Other methods known to those in the art can also be used to identify signaling molecules involved in receptor activity.

#### 4.10.15 ANTI-INFLAMMATORY ACTIVITY

Compositions of the present invention may also exhibit anti-inflammatory activity. The anti-inflammatory activity may be achieved by providing a stimulus to cells involved in the inflammatory response, by inhibiting or promoting cell-cell interactions (such as, for example, cell adhesion), by inhibiting or promoting chemotaxis of cells involved in the inflammatory process, inhibiting or promoting cell extravasation, or by stimulating or suppressing production of other factors which more directly inhibit or promote an inflammatory response. Compositions with such activities can be used to treat inflammatory conditions including chronic or acute conditions), including without limitation intimation associated with infection (such as septic shock, sepsis or systemic inflammatory response syndrome (SIRS)), ischemia-reperfusion injury, endotoxin lethality, arthritis, complement-mediated hyperacute rejection, nephritis, cytokine or chemokine-induced lung injury, inflammatory bowel disease, Crohn's disease or resulting from over production of cytokines such as TNF or IL-1. Compositions of the invention may also be useful to treat anaphylaxis and hypersensitivity to an antigenic substance or material.

Compositions of this invention may be utilized to prevent or treat conditions such as, but not limited to, sepsis, acute pancreatitis, endotoxin shock, cytokine induced shock, rheumatoid arthritis, chronic inflammatory arthritis, pancreatic cell damage from diabetes mellitus type 1, graft versus host disease, inflammatory bowel disease, inflammation associated with pulmonary disease, other autoimmune disease or inflammatory disease, an antiproliferative agent such as for acute or chronic myelogenous leukemia or in the prevention of premature labor secondary to intrauterine infections.

#### 4.10.16 LEUKEMIAS

Leukemias and related disorders may be treated or prevented by administration of a therapeutic that promotes or inhibits function of the polynucleotides and/or polypeptides of the invention. Such leukemias and related disorders include but are not limited to acute leukemia, acute lymphocytic leukemia, acute myelocytic leukemia, myeloblastic, promyelocytic, myelomonocytic, monocytic, erythroleukemia, chronic leukemia, chronic myelocytic (granulocytic) leukemia and chronic lymphocytic leukemia (for a review of such disorders, see Fishman et al., 1985, Medicine, 2d Ed., J.B. Lippincott Co., Philadelphia).

#### 4.10.17 NERVOUS SYSTEM DISORDERS

Nervous system disorders, involving cell types which can be tested for efficacy of intervention with compounds that modulate the activity of the polynucleotides and/or polypeptides of the invention, and which can be treated upon thus observing an indication of therapeutic utility, include but are not limited to nervous system injuries, and diseases or disorders which result in either a disconnection of axons, a diminution or degeneration of neurons, or demyelination. Nervous system lesions which may be treated in a patient (including human and non-human mammalian patients) according to the invention include but are not limited to the following lesions of either the central (including spinal cord, brain) or peripheral nervous systems:

(i) traumatic lesions, including lesions caused by physical injury or associated with surgery, for example, lesions which sever a portion of the nervous system, or compression injuries;

(ii) ischemic lesions, in which a lack of oxygen in a portion of the nervous system results in neuronal injury or death, including cerebral infarction or ischemia, or spinal cord infarction or ischemia;

(iii) infectious lesions, in which a portion of the nervous system is destroyed or injured as a result of infection, for example, by an abscess or associated with infection by human immunodeficiency virus, herpes zoster, or herpes simplex virus or with Lyme disease, tuberculosis, syphilis;

(iv) degenerative lesions, in which a portion of the nervous system is destroyed or injured as a result of a degenerative process including but not limited to degeneration associated with Parkinson's disease, Alzheimer's disease, Huntington's chorea, or amyotrophic lateral sclerosis;

(v) lesions associated with nutritional diseases or disorders, in which a portion of the nervous system is destroyed or injured by a nutritional disorder or disorder of metabolism including but not limited to, vitamin B12 deficiency, folic acid deficiency, Wernicke disease, tobacco-alcohol amblyopia, Marchiafava-Bignami disease (primary degeneration of the corpus callosum), and alcoholic cerebellar degeneration;

(vi) neurological lesions associated with systemic diseases including but not limited to diabetes (diabetic neuropathy, Bell's palsy), systemic lupus erythematosus, carcinoma, or sarcoidosis;

(vii) lesions caused by toxic substances including alcohol, lead, or particular neurotoxins; and

(viii) demyelinated lesions in which a portion of the nervous system is destroyed or injured by a demyelinating disease including but not limited to multiple sclerosis, human

immunodeficiency virus-associated myelopathy, transverse myelopathy or various etiologies, progressive multifocal leukoencephalopathy, and central pontine myelinolysis.

Therapeutics which are useful according to the invention for treatment of a nervous system disorder may be selected by testing for biological activity in promoting the survival or differentiation of neurons. For example, and not by way of limitation, therapeutics which elicit any of the following effects may be useful according to the invention:

- (i) increased survival time of neurons in culture;
- (ii) increased sprouting of neurons in culture or *in vivo*;
- (iii) increased production of a neuron-associated molecule in culture or *in vivo*, *e.g.*, choline acetyltransferase or acetylcholinesterase with respect to motor neurons; or
- (iv) decreased symptoms of neuron dysfunction *in vivo*.

Such effects may be measured by any method known in the art. In preferred, non-limiting embodiments, increased survival of neurons may be measured by the method set forth in Arakawa et al. (1990, J. Neurosci. 10:3507-3515); increased sprouting of neurons may be detected by methods set forth in Pestronk et al. (1980, Exp. Neurol. 70:65-82) or Brown et al. (1981, Ann. Rev. Neurosci. 4:17-42); increased production of neuron-associated molecules may be measured by bioassay, enzymatic assay, antibody binding, Northern blot assay, *etc.*, depending on the molecule to be measured; and motor neuron dysfunction may be measured by assessing the physical manifestation of motor neuron disorder, *e.g.*, weakness, motor neuron conduction velocity, or functional disability.

In specific embodiments, motor neuron disorders that may be treated according to the invention include but are not limited to disorders such as infarction, infection, exposure to toxin, trauma, surgical damage, degenerative disease or malignancy that may affect motor neurons as well as other components of the nervous system, as well as disorders that selectively affect neurons such as amyotrophic lateral sclerosis, and including but not limited to progressive spinal muscular atrophy, progressive bulbar palsy, primary lateral sclerosis, infantile and juvenile muscular atrophy, progressive bulbar paralysis of childhood (Fazio-Londe syndrome), poliomyelitis and the post polio syndrome, and Hereditary Motor Sensory Neuropathy (Charcot-Marie-Tooth Disease).

#### 4.10.18 OTHER ACTIVITIES

A polypeptide of the invention may also exhibit one or more of the following additional activities or effects: inhibiting the growth, infection or function of, or killing, infectious agents, including, without limitation, bacteria, viruses, fungi and other parasites; effecting (suppressing or enhancing) bodily characteristics, including, without limitation, height, weight, hair color, eye

color, skin, fat to lean ratio or other tissue pigmentation, or organ or body part size or shape (such as, for example, breast augmentation or diminution, change in bone form or shape); effecting biorhythms or circadian cycles or rhythms; effecting the fertility of male or female subjects; effecting the metabolism, catabolism, anabolism, processing, utilization, storage or elimination of dietary fat, lipid, protein, carbohydrate, vitamins, minerals, co-factors or other nutritional factors or component(s); effecting behavioral characteristics, including, without limitation, appetite, libido, stress, cognition (including cognitive disorders), depression (including depressive disorders) and violent behaviors; providing analgesic effects or other pain reducing effects; promoting differentiation and growth of embryonic stem cells in lineages other than hematopoietic lineages; hormonal or endocrine activity; in the case of enzymes, correcting deficiencies of the enzyme and treating deficiency-related diseases; treatment of hyperproliferative disorders (such as, for example, psoriasis); immunoglobulin-like activity (such as, for example, the ability to bind antigens or complement); and the ability to act as an antigen in a vaccine composition to raise an immune response against such protein or another material or entity which is cross-reactive with such protein.

#### 4.10.19 IDENTIFICATION OF POLYMORPHISMS

The demonstration of polymorphisms makes possible the identification of such polymorphisms in human subjects and the pharmacogenetic use of this information for diagnosis and treatment. Such polymorphisms may be associated with, *e.g.*, differential predisposition or susceptibility to various disease states (such as disorders involving inflammation or immune response) or a differential response to drug administration, and this genetic information can be used to tailor preventive or therapeutic treatment appropriately. For example, the existence of a polymorphism associated with a predisposition to inflammation or autoimmune disease makes possible the diagnosis of this condition in humans by identifying the presence of the polymorphism.

Polymorphisms can be identified in a variety of ways known in the art which all generally involve obtaining a sample from a patient, analyzing DNA from the sample, optionally involving isolation or amplification of the DNA, and identifying the presence of the polymorphism in the DNA. For example, PCR may be used to amplify an appropriate fragment of genomic DNA which may then be sequenced. Alternatively, the DNA may be subjected to allele-specific oligonucleotide hybridization (in which appropriate oligonucleotides are hybridized to the DNA under conditions permitting detection of a single base mismatch) or to a single nucleotide extension assay (in which an oligonucleotide that hybridizes immediately adjacent to the position of the polymorphism is extended with one or more labeled nucleotides).

In addition, traditional restriction fragment length polymorphism analysis (using restriction enzymes that provide differential digestion of the genomic DNA depending on the presence or absence of the polymorphism) may be performed. Arrays with nucleotide sequences of the present invention can be used to detect polymorphisms. The array can comprise modified nucleotide sequences of the present invention in order to detect the nucleotide sequences of the present invention. In the alternative, any one of the nucleotide sequences of the present invention can be placed on the array to detect changes from those sequences.

Alternatively a polymorphism resulting in a change in the amino acid sequence could also be detected by detecting a corresponding change in amino acid sequence of the protein, *e.g.*, by an antibody specific to the variant sequence.

#### 4.10.20 ARTHRITIS AND INFLAMMATION

The immunosuppressive effects of the compositions of the invention against rheumatoid arthritis are determined in an experimental animal model system. The experimental model system is adjuvant induced arthritis in rats, and the protocol is described by J. Holoshitz, et al., 1983, Science, 219:56, or by B. Waksman et al., 1963, Int. Arch. Allergy Appl. Immunol., 23:129. Induction of the disease can be caused by a single injection, generally intradermally, of a suspension of killed Mycobacterium tuberculosis in complete Freund's adjuvant (CFA). The route of injection can vary, but rats may be injected at the base of the tail with an adjuvant mixture. The polypeptide is administered in phosphate buffered solution (PBS) at a dose of about 1-5 mg/kg. The control consists of administering PBS only.

The procedure for testing the effects of the test compound would consist of intradermally injecting killed Mycobacterium tuberculosis in CFA followed by immediately administering the test compound and subsequent treatment every other day until day 24. At 14, 15, 18, 20, 22, and 24 days after injection of Mycobacterium CFA, an overall arthritis score may be obtained as described by J. Holoskitz above. An analysis of the data would reveal that the test compound would have a dramatic affect on the swelling of the joints as measured by a decrease of the arthritis score.

#### 4.11 THERAPEUTIC METHODS

The compositions (including polypeptide fragments, analogs, variants and antibodies or other binding partners or modulators including antisense polynucleotides) of the invention have numerous applications in a variety of therapeutic methods. Examples of therapeutic applications include, but are not limited to, those exemplified herein.

#### 4.11.1 EXAMPLE

One embodiment of the invention is the administration of an effective amount of the polypeptides or other composition of the invention to individuals affected by a disease or disorder that can be modulated by regulating the peptides of the invention. While the mode of administration is not particularly important, parenteral administration is preferred. An exemplary mode of administration is to deliver an intravenous bolus. The dosage of the polypeptides or other composition of the invention will normally be determined by the prescribing physician. It is to be expected that the dosage will vary according to the age, weight, condition and response of the individual patient. Typically, the amount of polypeptide administered per dose will be in the range of about 0.01 µg/kg to 100 mg/kg of body weight, with the preferred dose being about 0.1 µg/kg to 10 mg/kg of patient body weight. For parenteral administration, polypeptides of the invention will be formulated in an injectable form combined with a pharmaceutically acceptable parenteral vehicle. Such vehicles are well known in the art and examples include water, saline, Ringer's solution, dextrose solution, and solutions consisting of small amounts of the human serum albumin. The vehicle may contain minor amounts of additives that maintain the isotonicity and stability of the polypeptide or other active ingredient. The preparation of such solutions is within the skill of the art.

#### 4.12 PHARMACEUTICAL FORMULATIONS AND ROUTES OF ADMINISTRATION

A protein or other composition of the present invention (from whatever source derived, including without limitation from recombinant and non-recombinant sources and including antibodies and other binding partners of the polypeptides of the invention) may be administered to a patient in need, by itself, or in pharmaceutical compositions where it is mixed with suitable carriers or excipient(s) at doses to treat or ameliorate a variety of disorders. Such a composition may optionally contain (in addition to protein or other active ingredient and a carrier) diluents, fillers, salts, buffers, stabilizers, solubilizers, and other materials well known in the art. The term "pharmaceutically acceptable" means a non-toxic material that does not interfere with the effectiveness of the biological activity of the active ingredient(s). The characteristics of the carrier will depend on the route of administration. The pharmaceutical composition of the invention may also contain cytokines, lymphokines, or other hematopoietic factors such as M-CSF, GM-CSF, TNF, IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IFN, TNF0, TNF1, TNF2, G-CSF, Meg-CSF, thrombopoietin, stem cell factor, and erythropoietin. In further compositions, proteins of the invention may be combined with other agents beneficial to the treatment of the disease or disorder in question. These agents

include various growth factors such as epidermal growth factor (EGF), platelet-derived growth factor (PDGF), transforming growth factors (TGF- $\alpha$  and TGF- $\beta$ ), insulin-like growth factor (IGF), as well as cytokines described herein.

The pharmaceutical composition may further contain other agents which either enhance the activity of the protein or other active ingredient or complement its activity or use in treatment. Such additional factors and/or agents may be included in the pharmaceutical composition to produce a synergistic effect with protein or other active ingredient of the invention, or to minimize side effects. Conversely, protein or other active ingredient of the present invention may be included in formulations of the particular clotting factor, cytokine, lymphokine, other hematopoietic factor, thrombolytic or anti-thrombotic factor, or anti-inflammatory agent to minimize side effects of the clotting factor, cytokine, lymphokine, other hematopoietic factor, thrombolytic or anti-thrombotic factor, or anti-inflammatory agent (such as IL-1Ra, IL-1 Hy1, IL-1 Hy2, anti-TNF, corticosteroids, immunosuppressive agents). A protein of the present invention may be active in multimers (*e.g.*, heterodimers or homodimers) or complexes with itself or other proteins. As a result, pharmaceutical compositions of the invention may comprise a protein of the invention in such multimeric or complexed form.

As an alternative to being included in a pharmaceutical composition of the invention including a first protein, a second protein or a therapeutic agent may be concurrently administered with the first protein (*e.g.*, at the same time, or at differing times provided that therapeutic concentrations of the combination of agents is achieved at the treatment site). Techniques for formulation and administration of the compounds of the instant application may be found in "Remington's Pharmaceutical Sciences," Mack Publishing Co., Easton, PA, latest edition. A therapeutically effective dose further refers to that amount of the compound sufficient to result in amelioration of symptoms, *e.g.*, treatment, healing, prevention or amelioration of the relevant medical condition, or an increase in rate of treatment, healing, prevention or amelioration of such conditions. When applied to an individual active ingredient, administered alone, a therapeutically effective dose refers to that ingredient alone. When applied to a combination, a therapeutically effective dose refers to combined amounts of the active ingredients that result in the therapeutic effect, whether administered in combination, serially or simultaneously.

In practicing the method of treatment or use of the present invention, a therapeutically effective amount of protein or other active ingredient of the present invention is administered to a mammal having a condition to be treated. Protein or other active ingredient of the present invention may be administered in accordance with the method of the invention either alone or in combination with other therapies such as treatments employing cytokines, lymphokines or other

hematopoietic factors. When co-administered with one or more cytokines, lymphokines or other hematopoietic factors, protein or other active ingredient of the present invention may be administered either simultaneously with the cytokine(s), lymphokine(s), other hematopoietic factor(s), thrombolytic or anti-thrombotic factors, or sequentially. If administered sequentially, the attending physician will decide on the appropriate sequence of administering protein or other active ingredient of the present invention in combination with cytokine(s), lymphokine(s), other hematopoietic factor(s), thrombolytic or anti-thrombotic factors.

#### 4.12.1 ROUTES OF ADMINISTRATION

Suitable routes of administration may, for example, include oral, rectal, transmucosal, or intestinal administration; parenteral delivery, including intramuscular, subcutaneous, intramedullary injections, as well as intrathecal, direct intraventricular, intravenous, intraperitoneal, intranasal, or intraocular injections. Administration of protein or other active ingredient of the present invention used in the pharmaceutical composition or to practice the method of the present invention can be carried out in a variety of conventional ways, such as oral ingestion, inhalation, topical application or cutaneous, subcutaneous, intraperitoneal, parenteral or intravenous injection. Intravenous administration to the patient is preferred.

Alternately, one may administer the compound in a local rather than systemic manner, for example, via injection of the compound directly into a arthritic joints or in fibrotic tissue, often in a depot or sustained release formulation. In order to prevent the scarring process frequently occurring as complication of glaucoma surgery, the compounds may be administered topically, for example, as eye drops. Furthermore, one may administer the drug in a targeted drug delivery system, for example, in a liposome coated with a specific antibody, targeting, for example, arthritic or fibrotic tissue. The liposomes will be targeted to and taken up selectively by the afflicted tissue.

The polypeptides of the invention are administered by any route that delivers an effective dosage to the desired site of action. The determination of a suitable route of administration and an effective dosage for a particular indication is within the level of skill in the art. Preferably for wound treatment, one administers the therapeutic compound directly to the site. Suitable dosage ranges for the polypeptides of the invention can be extrapolated from these dosages or from similar studies in appropriate animal models. Dosages can then be adjusted as necessary by the clinician to provide maximal therapeutic benefit.

#### 4.12.2 COMPOSITIONS/FORMULATIONS



Pharmaceutical compositions for use in accordance with the present invention thus may be formulated in a conventional manner using one or more physiologically acceptable carriers comprising excipients and auxiliaries which facilitate processing of the active compounds into preparations which can be used pharmaceutically. These pharmaceutical compositions may be manufactured in a manner that is itself known, *e.g.*, by means of conventional mixing, dissolving, granulating, dragee-making, levigating, emulsifying, encapsulating, entrapping or lyophilizing processes. Proper formulation is dependent upon the route of administration chosen. When a therapeutically effective amount of protein or other active ingredient of the present invention is administered orally, protein or other active ingredient of the present invention will be in the form of a tablet, capsule, powder, solution or elixir. When administered in tablet form, the pharmaceutical composition of the invention may additionally contain a solid carrier such as a gelatin or an adjuvant. The tablet, capsule, and powder contain from about 5 to 95% protein or other active ingredient of the present invention, and preferably from about 25 to 90% protein or other active ingredient of the present invention. When administered in liquid form, a liquid carrier such as water, petroleum, oils of animal or plant origin such as peanut oil, mineral oil, soybean oil, or sesame oil, or synthetic oils may be added. The liquid form of the pharmaceutical composition may further contain physiological saline solution, dextrose or other saccharide solution, or glycols such as ethylene glycol, propylene glycol or polyethylene glycol. When administered in liquid form, the pharmaceutical composition contains from about 0.5 to 90% by weight of protein or other active ingredient of the present invention, and preferably from about 1 to 50% protein or other active ingredient of the present invention.

When a therapeutically effective amount of protein or other active ingredient of the present invention is administered by intravenous, cutaneous or subcutaneous injection, protein or other active ingredient of the present invention will be in the form of a pyrogen-free, parenterally acceptable aqueous solution. The preparation of such parenterally acceptable protein or other active ingredient solutions, having due regard to pH, isotonicity, stability, and the like, is within the skill in the art. A preferred pharmaceutical composition for intravenous, cutaneous, or subcutaneous injection should contain, in addition to protein or other active ingredient of the present invention, an isotonic vehicle such as Sodium Chloride Injection, Ringer's Injection, Dextrose Injection, Dextrose and Sodium Chloride Injection, Lactated Ringer's Injection, or other vehicle as known in the art. The pharmaceutical composition of the present invention may also contain stabilizers, preservatives, buffers, antioxidants, or other additives known to those of skill in the art. For injection, the agents of the invention may be formulated in aqueous solutions, preferably in physiologically compatible buffers such as Hanks's solution, Ringer's solution, or physiological saline buffer. For transmucosal administration, penetrants appropriate

to the barrier to be permeated are used in the formulation. Such penetrants are generally known in the art.

For oral administration, the compounds can be formulated readily by combining the active compounds with pharmaceutically acceptable carriers well known in the art. Such carriers enable the compounds of the invention to be formulated as tablets, pills, dragees, capsules, liquids, gels, syrups, slurries, suspensions and the like, for oral ingestion by a patient to be treated. Pharmaceutical preparations for oral use can be obtained from a solid excipient, optionally grinding a resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients are, in particular, fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; cellulose preparations such as, for example, maize starch, wheat starch, rice starch, potato starch, gelatin, gum tragacanth, methyl cellulose, hydroxypropylmethyl-cellulose, sodium carboxymethylcellulose, and/or polyvinylpyrrolidone (PVP). If desired, disintegrating agents may be added, such as the cross-linked polyvinyl pyrrolidone, agar, or alginic acid or a salt thereof such as sodium alginate. Dragee cores are provided with suitable coatings. For this purpose, concentrated sugar solutions may be used, which may optionally contain gum arabic, talc, polyvinyl pyrrolidone, carbopol gel, polyethylene glycol, and/or titanium dioxide, lacquer solutions, and suitable organic solvents or solvent mixtures. Dyestuffs or pigments may be added to the tablets or dragee coatings for identification or to characterize different combinations of active compound doses.

Pharmaceutical preparations which can be used orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a plasticizer, such as glycerol or sorbitol. The push-fit capsules can contain the active ingredients in admixture with filler such as lactose, binders such as starches, and/or lubricants such as talc or magnesium stearate and, optionally, stabilizers. In soft capsules, the active compounds may be dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycols. In addition, stabilizers may be added. All formulations for oral administration should be in dosages suitable for such administration. For buccal administration, the compositions may take the form of tablets or lozenges formulated in conventional manner.

For administration by inhalation, the compounds for use according to the present invention are conveniently delivered in the form of an aerosol spray presentation from pressurized packs or a nebuliser, with the use of a suitable propellant, *e.g.*, dichlorodifluoromethane, trichlorofluoromethane, dichlorotetrafluoroethane, carbon dioxide or other suitable gas. In the case of a pressurized aerosol the dosage unit may be determined by providing a valve to deliver a metered amount. Capsules and cartridges of, *e.g.*, gelatin for use

in an inhaler or insufflator may be formulated containing a powder mix of the compound and a suitable powder base such as lactose or starch. The compounds may be formulated for parenteral administration by injection, *e.g.*, by bolus injection or continuous infusion. Formulations for injection may be presented in unit dosage form, *e.g.*, in ampules or in multi-dose containers, with an added preservative. The compositions may take such forms as suspensions, solutions or emulsions in oily or aqueous vehicles, and may contain formulatory agents such as suspending, stabilizing and/or dispersing agents.

Pharmaceutical formulations for parenteral administration include aqueous solutions of the active compounds in water-soluble form. Additionally, suspensions of the active compounds may be prepared as appropriate oily injection suspensions. Suitable lipophilic solvents or vehicles include fatty oils such as sesame oil, or synthetic fatty acid esters, such as ethyl oleate or triglycerides, or liposomes. Aqueous injection suspensions may contain substances which increase the viscosity of the suspension, such as sodium carboxymethyl cellulose, sorbitol, or dextran. Optionally, the suspension may also contain suitable stabilizers or agents which increase the solubility of the compounds to allow for the preparation of highly concentrated solutions. Alternatively, the active ingredient may be in powder form for constitution with a suitable vehicle, *e.g.*, sterile pyrogen-free water, before use.

The compounds may also be formulated in rectal compositions such as suppositories or retention enemas, *e.g.*, containing conventional suppository bases such as cocoa butter or other glycerides. In addition to the formulations described previously, the compounds may also be formulated as a depot preparation. Such long acting formulations may be administered by implantation (for example subcutaneously or intramuscularly) or by intramuscular injection. Thus, for example, the compounds may be formulated with suitable polymeric or hydrophobic materials (for example as an emulsion in an acceptable oil) or ion exchange resins, or as sparingly soluble derivatives, for example, as a sparingly soluble salt.

A pharmaceutical carrier for the hydrophobic compounds of the invention is a co-solvent system comprising benzyl alcohol, a nonpolar surfactant, a water-miscible organic polymer, and an aqueous phase. The co-solvent system may be the VPD co-solvent system. VPD is a solution of 3% w/v benzyl alcohol, 8% w/v of the nonpolar surfactant polysorbate 80, and 65% w/v polyethylene glycol 300, made up to volume in absolute ethanol. The VPD co-solvent system (VPD:5W) consists of VPD diluted 1:1 with a 5% dextrose in water solution. This co-solvent system dissolves hydrophobic compounds well, and itself produces low toxicity upon systemic administration. Naturally, the proportions of a co-solvent system may be varied considerably without destroying its solubility and toxicity characteristics. Furthermore, the identity of the co-solvent components may be varied: for example, other low-toxicity nonpolar surfactants may

be used instead of polysorbate 80; the fraction size of polyethylene glycol may be varied; other biocompatible polymers may replace polyethylene glycol, *e.g.* polyvinyl pyrrolidone; and other sugars or polysaccharides may substitute for dextrose. Alternatively, other delivery systems for hydrophobic pharmaceutical compounds may be employed. Liposomes and emulsions are well known examples of delivery vehicles or carriers for hydrophobic drugs. Certain organic solvents such as dimethylsulfoxide also may be employed, although usually at the cost of greater toxicity. Additionally, the compounds may be delivered using a sustained-release system, such as semipermeable matrices of solid hydrophobic polymers containing the therapeutic agent. Various types of sustained-release materials have been established and are well known by those skilled in the art. Sustained-release capsules may, depending on their chemical nature, release the compounds for a few weeks up to over 100 days. Depending on the chemical nature and the biological stability of the therapeutic reagent, additional strategies for protein or other active ingredient stabilization may be employed.

The pharmaceutical compositions also may comprise suitable solid or gel phase carriers or excipients. Examples of such carriers or excipients include but are not limited to calcium carbonate, calcium phosphate, various sugars, starches, cellulose derivatives, gelatin, and polymers such as polyethylene glycols. Many of the active ingredients of the invention may be provided as salts with pharmaceutically compatible counter ions. Such pharmaceutically acceptable base addition salts are those salts which retain the biological effectiveness and properties of the free acids and which are obtained by reaction with inorganic or organic bases such as sodium hydroxide, magnesium hydroxide, ammonia, trialkylamine, dialkylamine, monoalkylamine, dibasic amino acids, sodium acetate, potassium benzoate, triethanol amine and the like.

The pharmaceutical composition of the invention may be in the form of a complex of the protein(s) or other active ingredient(s) of present invention along with protein or peptide antigens. The protein and/or peptide antigen will deliver a stimulatory signal to both B and T lymphocytes. B-lymphocytes will respond to antigen through their surface immunoglobulin receptor. T lymphocytes will respond to antigen through the T cell receptor (TCR) following presentation of the antigen by MHC proteins. MHC and structurally related proteins including those encoded by class I and class II MHC genes on host cells will serve to present the peptide antigen(s) to T lymphocytes. The antigen components could also be supplied as purified MHC-peptide complexes alone or with co-stimulatory molecules that can directly signal T cells. Alternatively antibodies able to bind surface immunoglobulin and other molecules on B cells as well as antibodies able to bind the TCR and other molecules on T cells can be combined with the pharmaceutical composition of the invention.

The pharmaceutical composition of the invention may be in the form of a liposome in which protein of the present invention is combined, in addition to other pharmaceutically acceptable carriers, with amphipathic agents such as lipids which exist in aggregated form as micelles, insoluble monolayers, liquid crystals, or lamellar layers in aqueous solution. Suitable lipids for liposomal formulation include, without limitation, monoglycerides, diglycerides, sulfatides, lysolecithins, phospholipids, saponin, bile acids, and the like. Preparation of such liposomal formulations is within the level of skill in the art, as disclosed, for example, in U.S. Patent Nos. 4,235,871; 4,501,728; 4,837,028; and 4,737,323, all of which are incorporated herein by reference.

The amount of protein or other active ingredient of the present invention in the pharmaceutical composition of the present invention will depend upon the nature and severity of the condition being treated, and on the nature of prior treatments which the patient has undergone. Ultimately, the attending physician will decide the amount of protein or other active ingredient of the present invention with which to treat each individual patient. Initially, the attending physician will administer low doses of protein or other active ingredient of the present invention and observe the patient's response. Larger doses of protein or other active ingredient of the present invention may be administered until the optimal therapeutic effect is obtained for the patient, and at that point the dosage is not increased further. It is contemplated that the various pharmaceutical compositions used to practice the method of the present invention should contain about 0.01  $\mu$ g to about 100 mg (preferably about 0.1  $\mu$ g to about 10 mg, more preferably about 0.1  $\mu$ g to about 1 mg) of protein or other active ingredient of the present invention per kg body weight. For compositions of the present invention which are useful for bone, cartilage, tendon or ligament regeneration, the therapeutic method includes administering the composition topically, systematically, or locally as an implant or device. When administered, the therapeutic composition for use in this invention is, of course, in a pyrogen-free, physiologically acceptable form. Further, the composition may desirably be encapsulated or injected in a viscous form for delivery to the site of bone, cartilage or tissue damage. Topical administration may be suitable for wound healing and tissue repair. Therapeutically useful agents other than a protein or other active ingredient of the invention which may also optionally be included in the composition as described above, may alternatively or additionally, be administered simultaneously or sequentially with the composition in the methods of the invention. Preferably for bone and/or cartilage formation, the composition would include a matrix capable of delivering the protein-containing or other active ingredient-containing composition to the site of bone and/or cartilage damage, providing a structure for the developing bone and cartilage and optimally

capable of being resorbed into the body. Such matrices may be formed of materials presently in use for other implanted medical applications.

The choice of matrix material is based on biocompatibility, biodegradability, mechanical properties, cosmetic appearance and interface properties. The particular application of the compositions will define the appropriate formulation. Potential matrices for the compositions may be biodegradable and chemically defined calcium sulfate, tricalcium phosphate, hydroxyapatite, polylactic acid, polyglycolic acid and polyanhydrides. Other potential materials are biodegradable and biologically well-defined, such as bone or dermal collagen. Further matrices are comprised of pure proteins or extracellular matrix components. Other potential matrices are nonbiodegradable and chemically defined, such as sintered hydroxyapatite, bioglass, aluminates, or other ceramics. Matrices may be comprised of combinations of any of the above-mentioned types of material, such as polylactic acid and hydroxyapatite or collagen and tricalcium phosphate. The bioceramics may be altered in composition, such as in calcium-aluminate-phosphate and processing to alter pore size, particle size, particle shape, and biodegradability. Presently preferred is a 50:50 (mole weight) copolymer of lactic acid and glycolic acid in the form of porous particles having diameters ranging from 150 to 800 microns. In some applications, it will be useful to utilize a sequestering agent, such as carboxymethyl cellulose or autologous blood clot, to prevent the protein compositions from disassociating from the matrix.

A preferred family of sequestering agents is cellulosic materials such as alkylcelluloses (including hydroxyalkylcelluloses), including methylcellulose, ethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, hydroxypropyl-methylcellulose, and carboxymethylcellulose, the most preferred being cationic salts of carboxymethylcellulose (CMC). Other preferred sequestering agents include hyaluronic acid, sodium alginate, poly(ethylene glycol), polyoxyethylene oxide, carboxyvinyl polymer and poly(vinyl alcohol). The amount of sequestering agent useful herein is 0.5-20 wt %, preferably 1-10 wt % based on total formulation weight, which represents the amount necessary to prevent desorption of the protein from the polymer matrix and to provide appropriate handling of the composition, yet not so much that the progenitor cells are prevented from infiltrating the matrix, thereby providing the protein the opportunity to assist the osteogenic activity of the progenitor cells. In further compositions, proteins or other active ingredients of the invention may be combined with other agents beneficial to the treatment of the bone and/or cartilage defect, wound, or tissue in question. These agents include various growth factors such as epidermal growth factor (EGF), platelet derived growth factor (PDGF), transforming growth factors (TGF- $\alpha$  and TGF- $\beta$ ), and insulin-like growth factor (IGF).

The therapeutic compositions are also presently valuable for veterinary applications. Particularly domestic animals and thoroughbred horses, in addition to humans, are desired patients for such treatment with proteins or other active ingredients of the present invention. The dosage regimen of a protein-containing pharmaceutical composition to be used in tissue  
5 regeneration will be determined by the attending physician considering various factors which modify the action of the proteins, *e.g.*, amount of tissue weight desired to be formed, the site of damage, the condition of the damaged tissue, the size of a wound, type of damaged tissue (*e.g.*, bone), the patient's age, sex, and diet, the severity of any infection, time of administration and other clinical factors. The dosage may vary with the type of matrix used in the reconstitution  
10 and with inclusion of other proteins in the pharmaceutical composition. For example, the addition of other known growth factors, such as IGF I (insulin like growth factor I), to the final composition, may also effect the dosage. Progress can be monitored by periodic assessment of tissue/bone growth and/or repair, for example, X-rays, histomorphometric determinations and tetracycline labeling.

15 Polynucleotides of the present invention can also be used for gene therapy. Such polynucleotides can be introduced either *in vivo* or *ex vivo* into cells for expression in a mammalian subject. Polynucleotides of the invention may also be administered by other known methods for introduction of nucleic acid into a cell or organism (including, without limitation, in the form of viral vectors or naked DNA). Cells may also be cultured *ex vivo* in the presence of  
20 proteins of the present invention in order to proliferate or to produce a desired effect on or activity in such cells. Treated cells can then be introduced *in vivo* for therapeutic purposes.

#### 4.12.3 EFFECTIVE DOSAGE

Pharmaceutical compositions suitable for use in the present invention include  
25 compositions wherein the active ingredients are contained in an effective amount to achieve its intended purpose. More specifically, a therapeutically effective amount means an amount effective to prevent development of or to alleviate the existing symptoms of the subject being treated. Determination of the effective amount is well within the capability of those skilled in the art, especially in light of the detailed disclosure provided herein. For any compound used in  
30 the method of the invention, the therapeutically effective dose can be estimated initially from appropriate *in vitro* assays. For example, a dose can be formulated in animal models to achieve a circulating concentration range that can be used to more accurately determine useful doses in humans. For example, a dose can be formulated in animal models to achieve a circulating concentration range that includes the  $IC_{50}$  as determined in cell culture (*i.e.*, the concentration of

the test compound which achieves a half-maximal inhibition of the protein's biological activity).

Such information can be used to more accurately determine useful doses in humans.

A therapeutically effective dose refers to that amount of the compound that results in amelioration of symptoms or a prolongation of survival in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or experimental animals, *e.g.*, for determining the LD<sub>50</sub> (the dose lethal to 50% of the population) and the ED<sub>50</sub> (the dose therapeutically effective in 50% of the population). The dose ratio between toxic and therapeutic effects is the therapeutic index and it can be expressed as the ratio between LD<sub>50</sub> and ED<sub>50</sub>. Compounds which exhibit high therapeutic indices are preferred.

The data obtained from these cell culture assays and animal studies can be used in formulating a range of dosage for use in human. The dosage of such compounds lies preferably within a range of circulating concentrations that include the ED<sub>50</sub> with little or no toxicity. The dosage may vary within this range depending upon the dosage form employed and the route of administration utilized. The exact formulation, route of administration and dosage can be chosen by the individual physician in view of the patient's condition. See, *e.g.*, Fingl et al., 1975, in "The Pharmacological Basis of Therapeutics", Ch. 1 p.1. Dosage amount and interval may be adjusted individually to provide plasma levels of the active moiety which are sufficient to maintain the desired effects, or minimal effective concentration (MEC). The MEC will vary for each compound but can be estimated from *in vitro* data. Dosages necessary to achieve the MEC will depend on individual characteristics and route of administration. However, HPLC assays or bioassays can be used to determine plasma concentrations.

Dosage intervals can also be determined using MEC value. Compounds should be administered using a regimen that maintains plasma levels above the MEC for 10-90% of the time, preferably between 30-90% and most preferably between 50-90%. In cases of local administration or selective uptake, the effective local concentration of the drug may not be related to plasma concentration.

An exemplary dosage regimen for polypeptides or other compositions of the invention will be in the range of about 0.01 µg/kg to 100 mg/kg of body weight daily, with the preferred dose being about 0.1 µg/kg to 25 mg/kg of patient body weight daily, varying in adults and children. Dosing may be once daily, or equivalent doses may be delivered at longer or shorter intervals.

The amount of composition administered will, of course, be dependent on the subject being treated, on the subject's age and weight, the severity of the affliction, the manner of administration and the judgment of the prescribing physician.



#### 4.12.4 PACKAGING

The compositions may, if desired, be presented in a pack or dispenser device which may contain one or more unit dosage forms containing the active ingredient. The pack may, for example, comprise metal or plastic foil, such as a blister pack. The pack or dispenser device may be accompanied by instructions for administration. Compositions comprising a compound of the invention formulated in a compatible pharmaceutical carrier may also be prepared, placed in an appropriate container, and labeled for treatment of an indicated condition.

#### 4.13 ANTIBODIES

Also included in the invention are antibodies to proteins, or fragments of proteins of the invention. The term "antibody" as used herein refers to immunoglobulin molecules and immunologically active portions of immunoglobulin (Ig) molecules, *i.e.*, molecules that contain an antigen-binding site that specifically binds (immunoreacts with) an antigen. Such antibodies include, but are not limited to, polyclonal, monoclonal, chimeric, single chain,  $F_{ab}$ ,  $F_{ab}'$  and  $F_{(ab)2}$  fragments, and an  $F_{ab}$  expression library. In general, an antibody molecule obtained from humans relates to any of the classes IgG, IgM, IgA, IgE and IgD, which differ from one another by the nature of the heavy chain present in the molecule. Certain classes have subclasses as well, such as IgG<sub>1</sub>, IgG<sub>2</sub>, and others. Furthermore, in humans, the light chain may be a kappa chain or a lambda chain. Reference herein to antibodies includes a reference to all such classes, subclasses and types of human antibody species.

An isolated related protein of the invention may be intended to serve as an antigen, or a portion or fragment thereof, and additionally can be used as an immunogen to generate antibodies that immunospecifically bind the antigen, using standard techniques for polyclonal and monoclonal antibody preparation. The full-length protein can be used or, alternatively, the invention provides antigenic peptide fragments of the antigen for use as immunogens. An antigenic peptide fragment comprises at least 6 amino acid residues of the amino acid sequence of the full length protein, (for example the amino acid sequence shown in SEQ ID NO: 30369), and encompasses an epitope thereof such that an antibody raised against the peptide forms a specific immune complex with the full length protein or with any fragment that contains the epitope. Preferably, the antigenic peptide comprises at least 10 amino acid residues, or at least 15 amino acid residues, or at least 20 amino acid residues, or at least 30 amino acid residues. Preferred epitopes encompassed by the antigenic peptide are regions of the protein that are located on its surface; commonly these are hydrophilic regions.

In certain embodiments of the invention, at least one epitope encompassed by the antigenic peptide is a region on the surface of the protein of the invention that is located on the

surface of the protein, *e.g.*, a hydrophilic region. A hydrophobicity analysis of the human related protein sequence will indicate which regions of a related protein are particularly hydrophilic and, therefore, are likely to encode surface residues useful for targeting antibody production. As a means for targeting antibody production, hydropathy plots showing regions of hydrophilicity and hydrophobicity may be generated by any method well known in the art, including, for example, the Kyte Doolittle or the Hopp Woods methods, either with or without Fourier transformation. See, *e.g.*, Hopp and Woods, 1981, *Proc. Nat. Acad. Sci. USA* 78: 3824-3828; Kyte and Doolittle 1982, *J. Mol. Biol.* 157: 105-142, each of which is incorporated herein by reference in its entirety. Antibodies that are specific for one or more domains within an antigenic protein, or derivatives, fragments, analogs or homologs thereof, are also provided herein.

A protein of the invention, or a derivative, fragment, analog, homolog or ortholog thereof, may be utilized as an immunogen in the generation of antibodies that immunospecifically bind these protein components.

Various procedures known within the art may be used for the production of polyclonal or monoclonal antibodies directed against a protein of the invention, or against derivatives, fragments, analogs homologs or orthologs thereof (see, for example, *Antibodies: A Laboratory Manual*, Harlow E, and Lane D, 1988, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, incorporated herein by reference). Some of these antibodies are discussed below.

### 5.13.1 Polyclonal Antibodies

For the production of polyclonal antibodies, various suitable host animals (*e.g.*, rabbit, goat, mouse or other mammal) may be immunized by one or more injections with the native protein, a synthetic variant thereof, or a derivative of the foregoing. An appropriate immunogenic preparation can contain, for example, the naturally occurring immunogenic protein, a chemically synthesized polypeptide representing the immunogenic protein, or a recombinantly expressed immunogenic protein. Furthermore, the protein may be conjugated to a second protein known to be immunogenic in the mammal being immunized. Examples of such immunogenic proteins include but are not limited to keyhole limpet hemocyanin, serum albumin, bovine thyroglobulin, and soybean trypsin inhibitor. The preparation can further include an adjuvant. Various adjuvants used to increase the immunological response include, but are not limited to, Freund's (complete and incomplete), mineral gels (*e.g.*, aluminum hydroxide), surface active substances (*e.g.*, lysolecithin, pluronic polyols, polyanions, peptides, oil emulsions, dinitrophenol, etc.), adjuvants usable in humans such as Bacille Calmette-Guerin and *Corynebacterium parvum*, or similar immunostimulatory agents. Additional examples of

adjuvants which can be employed include MPL-TDM adjuvant (monophosphoryl Lipid A, synthetic trehalose dicorynomycolate).

The polyclonal antibody molecules directed against the immunogenic protein can be isolated from the mammal (*e.g.*, from the blood) and further purified by well known techniques, such as affinity chromatography using protein A or protein G, which provide primarily the IgG fraction of immune serum. Subsequently, or alternatively, the specific antigen which is the target of the immunoglobulin sought, or an epitope thereof, may be immobilized on a column to purify the immune specific antibody by immunoaffinity chromatography. Purification of immunoglobulins is discussed, for example, by D. Wilkinson (*The Scientist*, published by The Scientist, Inc., Philadelphia PA, Vol. 14, No. 8 (April 17, 2000), pp. 25-28).

### 5.13.2 Monoclonal Antibodies

The term "monoclonal antibody" (MAb) or "monoclonal antibody composition", as used herein, refers to a population of antibody molecules that contain only one molecular species of antibody molecule consisting of a unique light chain gene product and a unique heavy chain gene product. In particular, the complementarity determining regions (CDRs) of the monoclonal antibody are identical in all the molecules of the population. MAbs thus contain an antigen-binding site capable of immunoreacting with a particular epitope of the antigen characterized by a unique binding affinity for it.

Monoclonal antibodies can be prepared using hybridoma methods, such as those described by Kohler and Milstein, *Nature*, 256:495 (1975). In a hybridoma method, a mouse, hamster, or other appropriate host animal, is typically immunized with an immunizing agent to elicit lymphocytes that produce or are capable of producing antibodies that will specifically bind to the immunizing agent. Alternatively, the lymphocytes can be immunized in vitro.

The immunizing agent will typically include the protein antigen, a fragment thereof or a fusion protein thereof. Generally, either peripheral blood lymphocytes are used if cells of human origin are desired, or spleen cells or lymph node cells are used if non-human mammalian sources are desired. The lymphocytes are then fused with an immortalized cell line using a suitable fusing agent, such as polyethylene glycol, to form a hybridoma cell (Goding, *Monoclonal Antibodies: Principles and Practice*, Academic Press, (1986) pp. 59-103). Immortalized cell lines are usually transformed mammalian cells, particularly myeloma cells of rodent, bovine and human origin. Usually, rat or mouse myeloma cell lines are employed. The hybridoma cells can be cultured in a suitable culture medium that preferably contains one or more substances that inhibit the growth or survival of the unfused, immortalized cells. For example, if the parental cells lack the enzyme hypoxanthine guanine phosphoribosyl transferase (HGPRT or HPRT), the

culture medium for the hybridomas typically will include hypoxanthine, aminopterin, and thymidine ("HAT medium"), which substances prevent the growth of HGPRT-deficient cells.

Preferred immortalized cell lines are those that fuse efficiently, support stable high level expression of antibody by the selected antibody-producing cells, and are sensitive to a medium such as HAT medium. More preferred immortalized cell lines are murine myeloma lines, which can be obtained, for instance, from the Salk Institute Cell Distribution Center, San Diego, California and the American Type Culture Collection, Manassas, Virginia. Human myeloma and mouse-human heteromyeloma cell lines also have been described for the production of human monoclonal antibodies (Kozbor, J. Immunol., 133:3001 (1984); Brodeur et al., Monoclonal Antibody Production Techniques and Applications, Marcel Dekker, Inc., New York, (1987) pp. 51-63).

The culture medium in which the hybridoma cells are cultured can then be assayed for the presence of monoclonal antibodies directed against the antigen. Preferably, the binding specificity of monoclonal antibodies produced by the hybridoma cells is determined by immunoprecipitation or by an in vitro binding assay, such as radioimmunoassay (RIA) or enzyme-linked immunoabsorbent assay (ELISA). Such techniques and assays are known in the art. The binding affinity of the monoclonal antibody can, for example, be determined by the Scatchard analysis of Munson and Pollard, Anal. Biochem., 107:220 (1980). Preferably, antibodies having a high degree of specificity and a high binding affinity for the target antigen are isolated.

After the desired hybridoma cells are identified, the clones can be subcloned by limiting dilution procedures and grown by standard methods. Suitable culture media for this purpose include, for example, Dulbecco's Modified Eagle's Medium and RPMI-1640 medium. Alternatively, the hybridoma cells can be grown in vivo as ascites in a mammal.

The monoclonal antibodies secreted by the subclones can be isolated or purified from the culture medium or ascites fluid by conventional immunoglobulin purification procedures such as, for example, protein A-Sepharose, hydroxylapatite chromatography, gel electrophoresis, dialysis, or affinity chromatography.

The monoclonal antibodies can also be made by recombinant DNA methods, such as those described in U.S. Patent No. 4,816,567. DNA encoding the monoclonal antibodies of the invention can be readily isolated and sequenced using conventional procedures (*e.g.*, by using oligonucleotide probes that are capable of binding specifically to genes encoding the heavy and light chains of murine antibodies). The hybridoma cells of the invention serve as a preferred source of such DNA. Once isolated, the DNA can be placed into expression vectors, which are then transfected into host cells such as simian COS cells, Chinese hamster ovary (CHO) cells, or

myeloma cells that do not otherwise produce immunoglobulin protein, to obtain the synthesis of monoclonal antibodies in the recombinant host cells. The DNA also can be modified, for example, by substituting the coding sequence for human heavy and light chain constant domains in place of the homologous murine sequences (U.S. Patent No. 4,816,567; Morrison, Nature 368, 812-13 (1994)) or by covalently joining to the immunoglobulin coding sequence all or part of the coding sequence for a non-immunoglobulin polypeptide. Such a non-immunoglobulin polypeptide can be substituted for the constant domains of an antibody of the invention, or can be substituted for the variable domains of one antigen-combining site of an antibody of the invention to create a chimeric bivalent antibody.

10

### 5.13.2 Humanized Antibodies

The antibodies directed against the protein antigens of the invention can further comprise humanized antibodies or human antibodies. These antibodies are suitable for administration to humans without engendering an immune response by the human against the administered immunoglobulin. Humanized forms of antibodies are chimeric immunoglobulins, immunoglobulin chains or fragments thereof (such as Fv, Fab, Fab', F(ab')<sub>2</sub> or other antigen-binding subsequences of antibodies) that are principally comprised of the sequence of a human immunoglobulin, and contain minimal sequence derived from a non-human immunoglobulin. Humanization can be performed following the method of Winter and co-workers (Jones et al., Nature, 321:522-525 (1986); Riechmann et al., Nature, 332:323-327 (1988); Verhoeven et al., Science, 239:1534-1536 (1988)), by substituting rodent CDRs or CDR sequences for the corresponding sequences of a human antibody. (See also U.S. Patent No. 5,225,539.) In some instances, Fv framework residues of the human immunoglobulin are replaced by corresponding non-human residues. Humanized antibodies can also comprise residues which are found neither in the recipient antibody nor in the imported CDR or framework sequences. In general, the humanized antibody will comprise substantially all of at least one, and typically two, variable domains, in which all or substantially all of the CDR regions correspond to those of a non-human immunoglobulin and all or substantially all of the framework regions are those of a human immunoglobulin consensus sequence. The humanized antibody optimally also will comprise at least a portion of an immunoglobulin constant region (Fc), typically that of a human immunoglobulin (Jones et al., 1986; Riechmann et al., 1988; and Presta, Curr. Op. Struct. Biol., 2:593-596 (1992)).

30

### 5.13.3 Human Antibodies

Fully human antibodies relate to antibody molecules in which essentially the entire sequences of both the light chain and the heavy chain, including the CDRs, arise from human genes. Such antibodies are termed "human antibodies", or "fully human antibodies" herein. Human monoclonal antibodies can be prepared by the trioma technique; the human B-cell hybridoma technique (see Kozbor, et al., 1983 Immunol Today 4: 72) and the EBV hybridoma technique to produce human monoclonal antibodies (see Cole, et al., 1985 In: MONOCLONAL ANTIBODIES AND CANCER THERAPY, Alan R. Liss, Inc., pp. 77-96). Human monoclonal antibodies may be utilized in the practice of the present invention and may be produced by using human hybridomas (see Cote, et al., 1983. Proc Natl Acad Sci USA 80: 2026-2030) or by transforming human B-cells with Epstein Barr Virus in vitro (see Cole, et al., 1985 In: MONOCLONAL ANTIBODIES AND CANCER THERAPY, Alan R. Liss, Inc., pp. 77-96).

In addition, human antibodies can also be produced using additional techniques, including phage display libraries (Hoogenboom and Winter, J. Mol. Biol., 227:381 (1991); Marks et al., J. Mol. Biol., 222:581 (1991)). Similarly, human antibodies can be made by introducing human immunoglobulin loci into transgenic animals, *e.g.*, mice in which the endogenous immunoglobulin genes have been partially or completely inactivated. Upon challenge, human antibody production is observed, which closely resembles that seen in humans in all respects, including gene rearrangement, assembly, and antibody repertoire. This approach is described, for example, in U.S. Patent Nos. 5,545,807; 5,545,806; 5,569,825; 5,625,126; 5,633,425; 5,661,016, and in Marks et al. (Bio/Technology 10, 779-783 (1992)); Lonberg et al. (Nature 368 856-859 (1994)); Morrison (Nature 368, 812-13 (1994)); Fishwild et al. (Nature Biotechnology 14, 845-51 (1996)); Neuberger (Nature Biotechnology 14, 826 (1996)); and Lonberg and Huszar (Intern. Rev. Immunol. 13 65-93 (1995)).

Human antibodies may additionally be produced using transgenic nonhuman animals which are modified so as to produce fully human antibodies rather than the animal's endogenous antibodies in response to challenge by an antigen. (See PCT publication WO94/02602). The endogenous genes encoding the heavy and light immunoglobulin chains in the nonhuman host have been incapacitated, and active loci encoding human heavy and light chain immunoglobulins are inserted into the host's genome. The human genes are incorporated, for example, using yeast artificial chromosomes containing the requisite human DNA segments. An animal which provides all the desired modifications is then obtained as progeny by crossbreeding intermediate transgenic animals containing fewer than the full complement of the modifications. The preferred embodiment of such a nonhuman animal is a mouse, and is termed the Xenomouse<sup>TM</sup> as disclosed in PCT publications WO 96/33735 and WO 96/34096. This animal produces B cells which secrete fully human immunoglobulins. The antibodies can be obtained directly from

the animal after immunization with an immunogen of interest, as, for example, a preparation of a polyclonal antibody, or alternatively from immortalized B cells derived from the animal, such as hybridomas producing monoclonal antibodies. Additionally, the genes encoding the immunoglobulins with human variable regions can be recovered and expressed to obtain the antibodies directly, or can be further modified to obtain analogs of antibodies such as, for example, single chain Fv molecules.

An example of a method of producing a nonhuman host, exemplified as a mouse, lacking expression of an endogenous immunoglobulin heavy chain is disclosed in U.S. Patent No. 5,939,598. It can be obtained by a method including deleting the J segment genes from at least one endogenous heavy chain locus in an embryonic stem cell to prevent rearrangement of the locus and to prevent formation of a transcript of a rearranged immunoglobulin heavy chain locus, the deletion being effected by a targeting vector containing a gene encoding a selectable marker; and producing from the embryonic stem cell a transgenic mouse whose somatic and germ cells contain the gene encoding the selectable marker.

A method for producing an antibody of interest, such as a human antibody, is disclosed in U.S. Patent No. 5,916,771. It includes introducing an expression vector that contains a nucleotide sequence encoding a heavy chain into one mammalian host cell in culture, introducing an expression vector containing a nucleotide sequence encoding a light chain into another mammalian host cell, and fusing the two cells to form a hybrid cell. The hybrid cell expresses an antibody containing the heavy chain and the light chain.

In a further improvement on this procedure, a method for identifying a clinically relevant epitope on an immunogen, and a correlative method for selecting an antibody that binds immunospecifically to the relevant epitope with high affinity, are disclosed in PCT publication WO 99/53049.

#### **5.13.4 F<sub>ab</sub> Fragments and Single Chain Antibodies**

According to the invention, techniques can be adapted for the production of single-chain antibodies specific to an antigenic protein of the invention (see *e.g.*, U.S. Patent No. 4,946,778). In addition, methods can be adapted for the construction of F<sub>ab</sub> expression libraries (see *e.g.*, Huse, et al., 1989 Science 246: 1275-1281) to allow rapid and effective identification of monoclonal F<sub>ab</sub> fragments with the desired specificity for a protein or derivatives, fragments, analogs or homologs thereof. Antibody fragments that contain the idiotypes to a protein antigen may be produced by techniques known in the art including, but not limited to: (i) an F<sub>(ab)</sub>2 fragment produced by pepsin digestion of an antibody molecule; (ii) an F<sub>ab</sub> fragment generated

by reducing the disulfide bridges of an  $F_{(ab)2}$  fragment; (iii) an  $F_{ab}$  fragment generated by the treatment of the antibody molecule with papain and a reducing agent and (iv)  $F_v$  fragments.

### 5.13.5 Bispecific Antibodies

5 Bispecific antibodies are monoclonal, preferably human or humanized, antibodies that have binding specificities for at least two different antigens. In the present case, one of the binding specificities is for an antigenic protein of the invention. The second binding target is any other antigen, and advantageously is a cell-surface protein or receptor or receptor subunit.

Methods for making bispecific antibodies are known in the art. Traditionally, the  
10 recombinant production of bispecific antibodies is based on the co-expression of two immunoglobulin heavy-chain/light-chain pairs, where the two heavy chains have different specificities (Milstein and Cuello, *Nature*, 305:537-539 (1983)). Because of the random assortment of immunoglobulin heavy and light chains, these hybridomas (quadromas) produce a potential mixture of ten different antibody molecules, of which only one has the correct  
15 bispecific structure. The purification of the correct molecule is usually accomplished by affinity chromatography steps. Similar procedures are disclosed in WO 93/08829, published 13 May 1993, and in Traunecker *et al.*, 1991 *EMBO J.*, 10:3655-3659.

Antibody variable domains with the desired binding specificities (antibody-antigen combining sites) can be fused to immunoglobulin constant domain sequences. The fusion  
20 preferably is with an immunoglobulin heavy-chain constant domain, comprising at least part of the hinge, CH2, and CH3 regions. It is preferred to have the first heavy-chain constant region (CH1) containing the site necessary for light-chain binding present in at least one of the fusions. DNAs encoding the immunoglobulin heavy-chain fusions and, if desired, the immunoglobulin light chain, are inserted into separate expression vectors, and are co-transfected into a suitable  
25 host organism. For further details of generating bispecific antibodies see, for example, Suresh *et al.*, *Methods in Enzymology*, 121:210 (1986).

According to another approach described in WO 96/27011, the interface between a pair of antibody molecules can be engineered to maximize the percentage of heterodimers which are recovered from recombinant cell culture. The preferred interface comprises at least a part of the  
30 CH3 region of an antibody constant domain. In this method, one or more small amino acid side chains from the interface of the first antibody molecule are replaced with larger side chains (*e.g.* tyrosine or tryptophan). Compensatory "cavities" of identical or similar size to the large side chain(s) are created on the interface of the second antibody molecule by replacing large amino acid side chains with smaller ones (*e.g.* alanine or threonine). This provides a mechanism for  
35 increasing the yield of the heterodimer over other unwanted end-products such as homodimers.



Bispecific antibodies can be prepared as full length antibodies or antibody fragments (*e.g.*  $F(ab')_2$  bispecific antibodies). Techniques for generating bispecific antibodies from antibody fragments have been described in the literature. For example, bispecific antibodies can be prepared using chemical linkage. Brennan et al., Science 229:81 (1985) describe a procedure wherein intact antibodies are proteolytically cleaved to generate  $F(ab')_2$  fragments. These fragments are reduced in the presence of the dithiol complexing agent sodium arsenite to stabilize vicinal dithiols and prevent intermolecular disulfide formation. The Fab' fragments generated are then converted to thionitrobenzoate (TNB) derivatives. One of the Fab'-TNB derivatives is then reconverted to the Fab'-thiol by reduction with mercaptoethylamine and is mixed with an equimolar amount of the other Fab'-TNB derivative to form the bispecific antibody. The bispecific antibodies produced can be used as agents for the selective immobilization of enzymes.

Additionally, Fab' fragments can be directly recovered from *E. coli* and chemically coupled to form bispecific antibodies. Shalaby et al., J. Exp. Med. 175:217-225 (1992) describe the production of a fully humanized bispecific antibody  $F(ab')_2$  molecule. Each Fab' fragment was separately secreted from *E. coli* and subjected to directed chemical coupling *in vitro* to form the bispecific antibody. The bispecific antibody thus formed was able to bind to cells overexpressing the ErbB2 receptor and normal human T cells, as well as trigger the lytic activity of human cytotoxic lymphocytes against human breast tumor targets.

Various techniques for making and isolating bispecific antibody fragments directly from recombinant cell culture have also been described. For example, bispecific antibodies have been produced using leucine zippers. Kostelny et al., J. Immunol. 148(5):1547-1553 (1992). The leucine zipper peptides from the Fos and Jun proteins were linked to the Fab' portions of two different antibodies by gene fusion. The antibody homodimers were reduced at the hinge region to form monomers and then re-oxidized to form the antibody heterodimers. This method can also be utilized for the production of antibody homodimers. The "diabody" technology described by Hollinger et al., Proc. Natl. Acad. Sci. USA 90:6444-6448 (1993) has provided an alternative mechanism for making bispecific antibody fragments. The fragments comprise a heavy-chain variable domain ( $V_H$ ) connected to a light-chain variable domain ( $V_L$ ) by a linker which is too short to allow pairing between the two domains on the same chain. Accordingly, the  $V_H$  and  $V_L$  domains of one fragment are forced to pair with the complementary  $V_L$  and  $V_H$  domains of another fragment, thereby forming two antigen-binding sites. Another strategy for making bispecific antibody fragments by the use of single-chain Fv (sFv) dimers has also been reported. See, Gruber et al., J. Immunol. 152:5368 (1994).

Antibodies with more than two valencies are contemplated. For example, trispecific antibodies can be prepared. Tutt et al., J. Immunol. 147:60 (1991).

Exemplary bispecific antibodies can bind to two different epitopes, at least one of which originates in the protein antigen of the invention. Alternatively, an anti-antigenic arm of an immunoglobulin molecule can be combined with an arm which binds to a triggering molecule on a leukocyte such as a T-cell receptor molecule (*e.g.* CD2, CD3, CD28, or B7), or Fc receptors for IgG (FcγR), such as FcγRI (CD64), FcγRII (CD32) and FcγRIII (CD16) so as to focus cellular defense mechanisms to the cell expressing the particular antigen. Bispecific antibodies can also be used to direct cytotoxic agents to cells which express a particular antigen. These antibodies possess an antigen-binding arm and an arm which binds a cytotoxic agent or a radionuclide chelator, such as EOTUBE, DPTA, DOTA, or TETA. Another bispecific antibody of interest binds the protein antigen described herein and further binds tissue factor (TF).

#### 5.13.6 Heteroconjugate Antibodies

Heteroconjugate antibodies are also within the scope of the present invention. Heteroconjugate antibodies are composed of two covalently joined antibodies. Such antibodies have, for example, been proposed to target immune system cells to unwanted cells (U.S. Patent No. 4,676,980), and for treatment of HIV infection (WO 91/00360; WO 92/200373; EP 03089). It is contemplated that the antibodies can be prepared in vitro using known methods in synthetic protein chemistry, including those involving crosslinking agents. For example, immunotoxins can be constructed using a disulfide exchange reaction or by forming a thioether bond. Examples of suitable reagents for this purpose include iminothiolate and methyl-4-mercaptobutyrimidate and those disclosed, for example, in U.S. Patent No. 4,676,980.

#### 5.13.7 Effector Function Engineering

It can be desirable to modify the antibody of the invention with respect to effector function, so as to enhance, *e.g.*, the effectiveness of the antibody in treating cancer. For example, cysteine residue(s) can be introduced into the Fc region, thereby allowing interchain disulfide bond formation in this region. The homodimeric antibody thus generated can have improved internalization capability and/or increased complement-mediated cell killing and antibody-dependent cellular cytotoxicity (ADCC). See Caron et al., *J. Exp Med.*, 176: 1191-1195 (1992) and Shopes, *J. Immunol.*, 148: 2918-2922 (1992). Homodimeric antibodies with enhanced anti-tumor activity can also be prepared using heterobifunctional cross-linkers as described in Wolff et al. *Cancer Research*, 53: 2560-2565 (1993). Alternatively, an antibody can

be engineered that has dual Fc regions and can thereby have enhanced complement lysis and ADCC capabilities. See Stevenson et al., *Anti-Cancer Drug Design*, 3: 219-230 (1989).

### 5.13.8 Immunoconjugates

5 The invention also pertains to immunoconjugates comprising an antibody conjugated to a cytotoxic agent such as a chemotherapeutic agent, toxin (*e.g.*, an enzymatically active toxin of bacterial, fungal, plant, or animal origin, or fragments thereof), or a radioactive isotope (*i.e.*, a radioconjugate).

Chemotherapeutic agents useful in the generation of such immunoconjugates have been described above. Enzymatically active toxins and fragments thereof that can be used include diphtheria A chain, nonbinding active fragments of diphtheria toxin, exotoxin A chain (from *Pseudomonas aeruginosa*), ricin A chain, abrin A chain, modeccin A chain, alpha-sarcin, Aleurites fordii proteins, dianthin proteins, *Phytolaca americana* proteins (PAPI, PAPII, and PAP-S), momordica charantia inhibitor, curcin, crotin, *sapaonaria officinalis* inhibitor, gelonin, 15 mitogellin, restrictocin, phenomycin, enomycin, and the tricothecenes. A variety of radionuclides are available for the production of radioconjugated antibodies. Examples include  $^{212}\text{Bi}$ ,  $^{131}\text{I}$ ,  $^{131}\text{In}$ ,  $^{90}\text{Y}$ , and  $^{186}\text{Re}$ .

Conjugates of the antibody and cytotoxic agent are made using a variety of bifunctional protein-coupling agents such as N-succinimidyl-3-(2-pyridyldithiol) propionate (SPDP), 20 iminothiolane (IT), bifunctional derivatives of imidoesters (such as dimethyl adipimidate HCL), active esters (such as disuccinimidyl suberate), aldehydes (such as glutaraldehyde), bis-azido compounds (such as bis (p-azidobenzoyl) hexanediamine), bis-diazonium derivatives (such as bis-(p-diazoniumbenzoyl)-ethylenediamine), diisocyanates (such as tolyene 2,6-diisocyanate), and bis-active fluorine compounds (such as 1,5-difluoro-2,4-dinitrobenzene). For example, a 25 ricin immunotoxin can be prepared as described in Vitetta et al., *Science*, 238: 1098 (1987). Carbon-14-labeled 1-isothiocyanatobenzyl-3-methyldiethylene triaminepentaacetic acid (MX-DTPA) is an exemplary chelating agent for conjugation of radionucleotide to the antibody. See WO94/11026.

In another embodiment, the antibody can be conjugated to a "receptor" (such 30 streptavidin) for utilization in tumor pretargeting wherein the antibody-receptor conjugate is administered to the patient, followed by removal of unbound conjugate from the circulation using a clearing agent and then administration of a "ligand" (*e.g.*, avidin) that is in turn conjugated to a cytotoxic agent.

### 35 4.14 COMPUTER READABLE SEQUENCES

In one application of this embodiment, a nucleotide sequence of the present invention can be recorded on computer readable media. As used herein, "computer readable media" refers to any medium which can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as floppy discs, hard disc storage medium, and magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. A skilled artisan can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising computer readable medium having recorded thereon a nucleotide sequence of the present invention. As used herein, "recorded" refers to a process for storing information on computer readable medium. A skilled artisan can readily adopt any of the presently known methods for recording information on computer readable medium to generate manufactures comprising the nucleotide sequence information of the present invention.

A variety of data storage structures are available to a skilled artisan for creating a computer readable medium having recorded thereon a nucleotide sequence of the present invention. The choice of the data storage structure will generally be based on the means chosen to access the stored information. In addition, a variety of data processor programs and formats can be used to store the nucleotide sequence information of the present invention on computer readable medium. The sequence information can be represented in a word processing text file, formatted in commercially-available software such as WordPerfect and Microsoft Word, or represented in the form of an ASCII file, stored in a database application, such as DB2, Sybase, Oracle, or the like. A skilled artisan can readily adapt any number of data processor structuring formats (*e.g.* text file or database) in order to obtain computer readable medium having recorded thereon the nucleotide sequence information of the present invention.

By providing any of the nucleotide sequences SEQ ID NO: 1-30368 or a representative fragment thereof; or a nucleotide sequence at least 95% identical to any of the nucleotide sequences of SEQ ID NO: 1-30368 in computer readable form, a skilled artisan can routinely access the sequence information for a variety of purposes. Computer software is publicly available which allows a skilled artisan to access sequence information provided in a computer readable medium. The examples which follow demonstrate how software which implements the BLAST (Altschul et al., J. Mol. Biol. 215:403-410 (1990)) and BLAZE (Brutlag et al., Comp. Chem. 17:203-207 (1993)) search algorithms on a Sybase system is used to identify open reading frames (ORFs) within a nucleic acid sequence. Such ORFs may be protein encoding fragments and may be useful in producing commercially important proteins such as enzymes used in fermentation reactions and in the production of commercially useful metabolites.

As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware means of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based systems are suitable for use in the present invention. As stated above, the computer-based systems of the present invention comprise a data storage means having stored therein a nucleotide sequence of the present invention and the necessary hardware means and software means for supporting and implementing a search means. As used herein, "data storage means" refers to memory which can store nucleotide sequence information of the present invention, or a memory access means which can access manufactures having recorded thereon the nucleotide sequence information of the present invention.

As used herein, "search means" refers to one or more programs which are implemented on the computer-based system to compare a target sequence or target structural motif with the sequence information stored within the data storage means. Search means are used to identify fragments or regions of a known sequence which match a particular target sequence or target motif. A variety of known algorithms are disclosed publicly and a variety of commercially available software for conducting search means are and can be used in the computer-based systems of the present invention. Examples of such software includes, but is not limited to, Smith-Waterman, MacPattern (EMBL), BLASTN and BLASTA (NPOLYPEPTIDEIA). A skilled artisan can readily recognize that any one of the available algorithms or implementing software packages for conducting homology searches can be adapted for use in the present computer-based systems. As used herein, a "target sequence" can be any nucleic acid or amino acid sequence of six or more nucleotides or two or more amino acids. A skilled artisan can readily recognize that the longer a target sequence is, the less likely a target sequence will be present as a random occurrence in the database. The most preferred sequence length of a target sequence is from about 10 to 300 amino acids, more preferably from about 30 to 100 nucleotide residues. However, it is well recognized that searches for commercially important fragments, such as sequence fragments involved in gene expression and protein processing, may be of shorter length.

As used herein, "a target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequence(s) are chosen based on a three-dimensional configuration which is formed upon the folding of the target motif. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzyme active sites and signal sequences. Nucleic acid target motifs include, but are not limited

to, promoter sequences, hairpin structures and inducible expression elements (protein binding sequences).

#### 4.15 TRIPLE HELIX FORMATION

5 In addition, the fragments of the present invention, as broadly described, can be used to control gene expression through triple helix formation or antisense DNA or RNA, both of which methods are based on the binding of a polynucleotide sequence to DNA or RNA. Polynucleotides suitable for use in these methods are preferably 20 to 40 bases in length and are designed to be complementary to a region of the gene involved in transcription (triple helix - see 10 Lee et al., Nucl. Acids Res. 6:3073 (1979); Cooney et al., Science 15241:456 (1988); and Dervan et al., Science 251:1360 (1991)) or to the mRNA itself (antisense - Olmno, J. Neurochem. 56:560 (1991); Oligodeoxynucleotides as Antisense Inhibitors of Gene Expression, CRC Press, Boca Raton, FL (1988)). Triple helix-formation optimally results in a shut-off of RNA 15 transcription from DNA, while antisense RNA hybridization blocks translation of an mRNA molecule into polypeptide. Both techniques have been demonstrated to be effective in model systems. Information contained in the sequences of the present invention is necessary for the design of an antisense or triple helix oligonucleotide.

#### 4.16 DIAGNOSTIC ASSAYS AND KITS

20 The present invention further provides methods to identify the presence or expression of one of the ORFs of the present invention, or homolog thereof, in a test sample, using a nucleic acid probe or antibodies of the present invention, optionally conjugated or otherwise associated with a suitable label.

In general, methods for detecting a polynucleotide of the invention can comprise 25 contacting a sample with a compound that binds to and forms a complex with the polynucleotide for a period sufficient to form the complex, and detecting the complex, so that if a complex is detected, a polynucleotide of the invention is detected in the sample. Such methods can also comprise contacting a sample under stringent hybridization conditions with nucleic acid primers that anneal to a polynucleotide of the invention under such conditions, and amplifying annealed 30 polynucleotides, so that if a polynucleotide is amplified, a polynucleotide of the invention is detected in the sample.

In general, methods for detecting a polypeptide of the invention can comprise contacting 35 a sample with a compound that binds to and forms a complex with the polypeptide for a period sufficient to form the complex, and detecting the complex, so that if a complex is detected, a polypeptide of the invention is detected in the sample.

In detail, such methods comprise incubating a test sample with one or more of the antibodies or one or more of the nucleic acid probes of the present invention and assaying for binding of the nucleic acid probes or antibodies to components within the test sample.

Conditions for incubating a nucleic acid probe or antibody with a test sample vary.

- 5 Incubation conditions depend on the format employed in the assay, the detection methods employed, and the type and nature of the nucleic acid probe or antibody used in the assay. One skilled in the art will recognize that any one of the commonly available hybridization, amplification or immunological assay formats can readily be adapted to employ the nucleic acid probes or antibodies of the present invention. Examples of such assays can be found in Chard, T., An Introduction to Radioimmunoassay and Related Techniques, Elsevier Science Publishers, Amsterdam, The Netherlands (1986); Bullock, G.R. et al., Techniques in Immunocytochemistry, Academic Press, Orlando, FL Vol. 1 (1982), Vol. 2 (1983), Vol. 3 (1985); Tijssen, P., Practice and Theory of immunoassays: Laboratory Techniques in Biochemistry and Molecular Biology, Elsevier Science Publishers, Amsterdam, The Netherlands (1985). The test samples of the present invention include cells, protein or membrane extracts of cells, or biological fluids such as sputum, blood, serum, plasma, or urine. The test sample used in the above-described method will vary based on the assay format, nature of the detection method and the tissues, cells or extracts used as the sample to be assayed. Methods for preparing protein extracts or membrane extracts of cells are well known in the art and can be readily be adapted in order to obtain a sample which is compatible with the system utilized.

- In another embodiment of the present invention, kits are provided which contain the necessary reagents to carry out the assays of the present invention. Specifically, the invention provides a compartment kit to receive, in close confinement, one or more containers which comprises: (a) a first container comprising one of the probes or antibodies of the present invention; and (b) one or more other containers comprising one or more of the following: wash reagents, reagents capable of detecting presence of a bound probe or antibody.

- In detail, a compartment kit includes any kit in which reagents are contained in separate containers. Such containers include small glass containers, plastic containers or strips of plastic or paper. Such containers allows one to efficiently transfer reagents from one compartment to another compartment such that the samples and reagents are not cross-contaminated, and the agents or solutions of each container can be added in a quantitative fashion from one compartment to another. Such containers will include a container which will accept the test sample, a container which contains the antibodies used in the assay, containers which contain wash reagents (such as phosphate buffered saline, Tris-buffers, etc.), and containers which contain the reagents used to detect the bound antibody or probe. Types of detection reagents

include labeled nucleic acid probes, labeled secondary antibodies, or in the alternative, if the primary antibody is labeled, the enzymatic, or antibody binding reagents which are capable of reacting with the labeled antibody. One skilled in the art will readily recognize that the disclosed probes and antibodies of the present invention can be readily incorporated into one of the established kit formats which are well known in the art.

#### 4.17 MEDICAL IMAGING

The novel polypeptides and binding partners of the invention are useful in medical imaging of sites expressing the molecules of the invention (*e.g.*, where the polypeptide of the invention is involved in the immune response, for imaging sites of inflammation or infection). See, *e.g.*, Kunkel et al., U.S. Pat. NO. 5,413,778. Such methods involve chemical attachment of a labeling or imaging agent, administration of the labeled polypeptide to a subject in a pharmaceutically acceptable carrier, and imaging the labeled polypeptide *in vivo* at the target site.

#### 4.18 SCREENING ASSAYS

Using the isolated proteins and polynucleotides of the invention, the present invention further provides methods of obtaining and identifying agents which bind to a polypeptide encoded by an ORF corresponding to any of the nucleotide sequences set forth in SEQ ID NO: 1-30368, or bind to a specific domain of the polypeptide encoded by the nucleic acid. In detail, said method comprises the steps of:

- (a) contacting an agent with an isolated protein encoded by an ORF of the present invention, or nucleic acid of the invention; and
- (b) determining whether the agent binds to said protein or said nucleic acid.

In general, therefore, such methods for identifying compounds that bind to a polynucleotide of the invention can comprise contacting a compound with a polynucleotide of the invention for a time sufficient to form a polynucleotide/compound complex, and detecting the complex, so that if a polynucleotide/compound complex is detected, a compound that binds to a polynucleotide of the invention is identified.

Likewise, in general, therefore, such methods for identifying compounds that bind to a polypeptide of the invention can comprise contacting a compound with a polypeptide of the invention for a time sufficient to form a polypeptide/compound complex, and detecting the complex, so that if a polypeptide/compound complex is detected, a compound that binds to a polynucleotide of the invention is identified.



Methods for identifying compounds that bind to a polypeptide of the invention can also comprise contacting a compound with a polypeptide of the invention in a cell for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a receptor gene sequence in the cell, and detecting the complex by detecting reporter gene sequence expression, so that if a polypeptide/compound complex is detected, a compound that binds a polypeptide of the invention is identified.

Compounds identified via such methods can include compounds which modulate the activity of a polypeptide of the invention (that is, increase or decrease its activity, relative to activity observed in the absence of the compound). Alternatively, compounds identified via such methods can include compounds which modulate the expression of a polynucleotide of the invention (that is, increase or decrease expression relative to expression levels observed in the absence of the compound). Compounds, such as compounds identified via the methods of the invention, can be tested using standard assays well known to those of skill in the art for their ability to modulate activity/expression.

The agents screened in the above assay can be, but are not limited to, peptides, carbohydrates, vitamin derivatives, or other pharmaceutical agents. The agents can be selected and screened at random or rationally selected or designed using protein modeling techniques.

For random screening, agents such as peptides, carbohydrates, pharmaceutical agents and the like are selected at random and are assayed for their ability to bind to the protein encoded by the ORF of the present invention. Alternatively, agents may be rationally selected or designed. As used herein, an agent is said to be "rationally selected or designed" when the agent is chosen based on the configuration of the particular protein. For example, one skilled in the art can readily adapt currently available procedures to generate peptides, pharmaceutical agents and the like, capable of binding to a specific peptide sequence, in order to generate rationally designed antipeptide peptides, for example see Hurby et al., Application of Synthetic Peptides: Antisense Peptides," In Synthetic Peptides, A User's Guide, W.H. Freeman, NY (1992), pp. 289-307, and Kaspczak et al., Biochemistry 28:9230-8 (1989), or pharmaceutical agents, or the like.

In addition to the foregoing, one class of agents of the present invention, as broadly described, can be used to control gene expression through binding to one of the ORFs or EMFs of the present invention. As described above, such agents can be randomly screened or rationally designed/selected. Targeting the ORF or EMF allows a skilled artisan to design sequence specific or element specific agents, modulating the expression of either a single ORF or multiple ORFs which rely on the same EMF for expression control. One class of DNA binding agents are agents which contain base residues which hybridize or form a triple helix formation by binding to DNA or RNA. Such agents can be based on the classic phosphodiester,

ribonucleic acid backbone, or can be a variety of sulfhydryl or polymeric derivatives which have base attachment capacity.

Agents suitable for use in these methods preferably contain 20 to 40 bases and are designed to be complementary to a region of the gene involved in transcription (triple helix - see Lee et al., Nucl. Acids Res. 6:3073 (1979); Cooney et al., Science 241:456 (1988); and Dervan et al., Science 251:1360 (1991)) or to the mRNA itself (antisense - Okano, J. Neurochem. 56:560 (1991); Oligodeoxynucleotides as Antisense Inhibitors of Gene Expression, CRC Press, Boca Raton, FL (1988)). Triple helix-formation optimally results in a shut-off of RNA transcription from DNA, while antisense RNA hybridization blocks translation of an mRNA molecule into polypeptide. Both techniques have been demonstrated to be effective in model systems. Information contained in the sequences of the present invention is necessary for the design of an antisense or triple helix oligonucleotide and other DNA binding agents.

Agents that bind to a protein encoded by one of the ORFs of the present invention can be used as a diagnostic agent. Agents which bind to a protein encoded by one of the ORFs of the present invention can be formulated using known techniques to generate a pharmaceutical composition.

#### 4.19 USE OF NUCLEIC ACIDS AS PROBES

Another aspect of the subject invention is to provide for polypeptide-specific nucleic acid hybridization probes capable of hybridizing with naturally occurring nucleotide sequences. The hybridization probes of the subject invention may be derived from any of the nucleotide sequences SEQ ID NO: 1-30368. Because the corresponding gene is only expressed in a limited number of tissues, a hybridization probe derived from any of the nucleotide sequences SEQ ID NO: 1-30368 can be used as an indicator of the presence of RNA of cell type of such a tissue in a sample.

Any suitable hybridization technique can be employed, such as, for example, *in situ* hybridization. PCR as described in US Patents Nos. 4,683,195 and 4,965,188 provides additional uses for oligonucleotides based upon the nucleotide sequences. Such probes used in PCR may be of recombinant origin, may be chemically synthesized, or a mixture of both. The probe will comprise a discrete nucleotide sequence for the detection of identical sequences or a degenerate pool of possible sequences for identification of closely related genomic sequences.

Other means for producing specific hybridization probes for nucleic acids include the cloning of nucleic acid sequences into vectors for the production of mRNA probes. Such vectors are known in the art and are commercially available and may be used to synthesize RNA probes *in vitro* by means of the addition of the appropriate RNA polymerase as T7 or SP6 RNA

polymerase and the appropriate radioactively labeled nucleotides. The nucleotide sequences may be used to construct hybridization probes for mapping their respective genomic sequences. The nucleotide sequence provided herein may be mapped to a chromosome or specific regions of a chromosome using well known genetic and/or chromosomal mapping techniques. These techniques include in situ hybridization, linkage analysis against known chromosomal markers, hybridization screening with libraries or flow-sorted chromosomal preparations specific to known chromosomes, and the like. The technique of fluorescent in situ hybridization of chromosome spreads has been described, among other places, in Verma et al (1988) Human Chromosomes: A Manual of Basic Techniques, Pergamon Press, New York NY.

Fluorescent *in situ* hybridization of chromosomal preparations and other physical chromosome mapping techniques may be correlated with additional genetic map data. Examples of genetic map data can be found in the 1994 Genome Issue of Science (265:1981f). Correlation between the location of a nucleic acid on a physical chromosomal map and a specific disease (or predisposition to a specific disease) may help delimit the region of DNA associated with that genetic disease. The nucleotide sequences of the subject invention may be used to detect differences in gene sequences between normal, carrier or affected individuals.

#### 4.20 PREPARATION OF SUPPORT BOUND OLIGONUCLEOTIDES

Oligonucleotides, *i.e.*, small nucleic acid segments, may be readily prepared by, for example, directly synthesizing the oligonucleotide by chemical means, as is commonly practiced using an automated oligonucleotide synthesizer.

Support bound oligonucleotides may be prepared by any of the methods known to those of skill in the art using any suitable support such as glass, polystyrene or Teflon. One strategy is to precisely spot oligonucleotides synthesized by standard synthesizers. Immobilization can be achieved using passive adsorption (Inouye & Hondo, (1990) J. Clin. Microbiol. 28(6) 1469-72); using UV light (Nagata *et al.*, 1985; Dahlen *et al.*, 1987; Morrissey & Collins, (1989) Mol. Cell Probes 3(2) 189-207) or by covalent binding of base modified DNA (Keller *et al.*, 1988; 1989); all references being specifically incorporated herein.

Another strategy that may be employed is the use of the strong biotin-streptavidin interaction as a linker. For example, Broude *et al.* (1994) Proc. Natl. Acad. Sci. USA 91(8) 3072-6, describe the use of biotinylated probes, although these are duplex probes, that are immobilized on streptavidin-coated magnetic beads. Streptavidin-coated beads may be purchased from Dynal, Oslo. Of course, this same linking chemistry is applicable to coating any surface with streptavidin. Biotinylated probes may be purchased from various sources, such as, *e.g.*, Operon Technologies (Alameda, CA).

Nunc Laboratories (Naperville, IL) is also selling suitable material that could be used. Nunc Laboratories have developed a method by which DNA can be covalently bound to the microwell surface termed Covalink NH. CovaLink NH is a polystyrene surface grafted with secondary amino groups (>NH) that serve as bridge-heads for further covalent coupling. CovaLink Modules may be purchased from Nunc Laboratories. DNA molecules may be bound to CovaLink exclusively at the 5'-end by a phosphoramidate bond, allowing immobilization of more than 1 pmol of DNA (Rasmussen *et al.*, (1991) *Anal. Biochem.* 198(1) 138-42).

The use of CovaLink NH strips for covalent binding of DNA molecules at the 5'-end has been described (Rasmussen *et al.*, (1991). In this technology, a phosphoramidate bond is employed (Chu *et al.*, (1983) *Nucleic Acids Res.* 11(8) 6513-29). This is beneficial as immobilization using only a single covalent bond is preferred. The phosphoramidate bond joins the DNA to the CovaLink NH secondary amino groups that are positioned at the end of spacer arms covalently grafted onto the polystyrene surface through a 2 nm long spacer arm. To link an oligonucleotide to CovaLink NH via an phosphoramidate bond, the oligonucleotide terminus must have a 5'-end phosphate group. It is, perhaps, even possible for biotin to be covalently bound to CovaLink and then streptavidin used to bind the probes.

More specifically, the linkage method includes dissolving DNA in water (7.5 ng/ul) and denaturing for 10 min. at 95°C and cooling on ice for 10 min. Ice-cold 0.1 M 1-methylimidazole, pH 7.0 (1-Melm<sub>7</sub>), is then added to a final concentration of 10 mM 1-Melm<sub>7</sub>. A ss DNA solution is then dispensed into CovaLink NH strips (75 ul/well) standing on ice.

Carbodiimide 0.2 M 1-ethyl-3-(3-dimethylaminopropyl)-carbodiimide (EDC), dissolved in 10 mM 1-Melm<sub>7</sub>, is made fresh and 25 ul added per well. The strips are incubated for 5 hours at 50°C. After incubation the strips are washed using, *e.g.*, Nunc-Immuno Wash; first the wells are washed 3 times, then they are soaked with washing solution for 5 min., and finally they are washed 3 times (where in the washing solution is 0.4 N NaOH, 0.25% SDS heated to 50°C).

It is contemplated that a further suitable method for use with the present invention is that described in PCT Patent Application WO 90/03382 (Southern & Maskos), incorporated herein by reference. This method of preparing an oligonucleotide bound to a support involves attaching a nucleoside 3'-reagent through the phosphate group by a covalent phosphodiester link to aliphatic hydroxyl groups carried by the support. The oligonucleotide is then synthesized on the supported nucleoside and protecting groups removed from the synthetic oligonucleotide chain under standard conditions that do not cleave the oligonucleotide from the support. Suitable reagents include nucleoside phosphoramidite and nucleoside hydrogen phosphate.

An on-chip strategy for the preparation of DNA probe for the preparation of DNA probe arrays may be employed. For example, addressable laser-activated photodeprotection may be

employed in the chemical synthesis of oligonucleotides directly on a glass surface, as described by Fodor *et al.* (1991) Science 251(4995) 767-73, incorporated herein by reference. Probes may also be immobilized on nylon supports as described by Van Ness *et al.* (1991) Nucleic Acids Res. 19(12) 3345-50; or linked to Teflon using the method of Duncan & Cavalier (1988) Anal. Biochem. 169(1) 104-8; all references being specifically incorporated herein.

To link an oligonucleotide to a nylon support, as described by Van Ness *et al.* (1991), requires activation of the nylon surface via alkylation and selective activation of the 5'-amine of oligonucleotides with cyanuric chloride.

One particular way to prepare support bound oligonucleotides is to utilize the light-generated synthesis described by Pease *et al.*, (1994) PNAS USA 91(11) 5022-6, incorporated herein by reference). These authors used current photolithographic techniques to generate arrays of immobilized oligonucleotide probes (DNA chips). These methods, in which light is used to direct the synthesis of oligonucleotide probes in high-density, miniaturized arrays, utilize photolabile 5'-protected *N*-acyl-deoxynucleoside phosphoramidites, surface linker chemistry and versatile combinatorial synthesis strategies. A matrix of 256 spatially defined oligonucleotide probes may be generated in this manner.

#### 4.21 PREPARATION OF NUCLEIC ACID FRAGMENTS

The nucleic acids may be obtained from any appropriate source, such as cDNAs, genomic DNA, chromosomal DNA, microdissected chromosome bands, cosmid or YAC inserts, and RNA, including mRNA without any amplification steps. For example, Sambrook *et al.* (1989) describes three protocols for the isolation of high molecular weight DNA from mammalian cells (p. 9.14-9.23).

DNA fragments may be prepared as clones in M13, plasmid or lambda vectors and/or prepared directly from genomic DNA or cDNA by PCR or other amplification methods. Samples may be prepared or dispensed in multiwell plates. About 100-1000 ng of DNA samples may be prepared in 2-500 ml of final volume.

The nucleic acids would then be fragmented by any of the methods known to those of skill in the art including, for example, using restriction enzymes as described at 9.24-9.28 of Sambrook *et al.* (1989), shearing by ultrasound and NaOH treatment.

Low pressure shearing is also appropriate, as described by Schrieffer *et al.* (1990) Nucleic Acids Res. 18(24) 7455-6, incorporated herein by reference). In this method, DNA samples are passed through a small French pressure cell at a variety of low to intermediate pressures. A lever device allows controlled application of low to intermediate pressures to the cell. The results of

these studies indicate that low-pressure shearing is a useful alternative to sonic and enzymatic DNA fragmentation methods.

One particularly suitable way for fragmenting DNA is contemplated to be that using the two base recognition endonuclease, *Cvi*JI, described by Fitzgerald *et al.* (1992) Nucleic Acids Res. 20(14) 3753-62. These authors described an approach for the rapid fragmentation and fractionation of DNA into particular sizes that they contemplated to be suitable for shotgun cloning and sequencing.

The restriction endonuclease *Cvi*JI normally cleaves the recognition sequence PuGCPy between the G and C to leave blunt ends. Atypical reaction conditions, which alter the specificity of this enzyme (*Cvi*JI\*\*), yield a quasi-random distribution of DNA fragments from the small molecule pUC19 (2688 base pairs). Fitzgerald *et al.* (1992) quantitatively evaluated the randomness of this fragmentation strategy, using a *Cvi*JI\*\* digest of pUC19 that was size fractionated by a rapid gel filtration method and directly ligated, without end repair, to a lac Z minus M13 cloning vector. Sequence analysis of 76 clones showed that *Cvi*JI\*\* restricts pyGCPy and PuGCPu, in addition to PuGCPy sites, and that new sequence data is accumulated at a rate consistent with random fragmentation.

As reported in the literature, advantages of this approach compared to sonication and agarose gel fractionation include: smaller amounts of DNA are required (0.2-0.5 ug instead of 2-5 ug); and fewer steps are involved (no preligation, end repair, chemical extraction, or agarose gel electrophoresis and elution are needed).

Irrespective of the manner in which the nucleic acid fragments are obtained or prepared, it is important to denature the DNA to give single stranded pieces available for hybridization. This is achieved by incubating the DNA solution for 2-5 minutes at 80-90°C. The solution is then cooled quickly to 2°C to prevent renaturation of the DNA fragments before they are contacted with the chip. Phosphate groups must also be removed from genomic DNA by methods known in the art.

#### 4.22 PREPARATION OF DNA ARRAYS

Arrays may be prepared by spotting DNA samples on a support such as a nylon membrane. Spotting may be performed by using arrays of metal pins (the positions of which correspond to an array of wells in a microtiter plate) to repeated by transfer of about 20 nl of a DNA solution to a nylon membrane. By offset printing, a density of dots higher than the density of the wells is achieved. One to 25 dots may be accommodated in 1 mm<sup>2</sup>, depending on the type of label used. By avoiding spotting in some preselected number of rows and columns, separate subsets (subarrays) may be formed. Samples in one subarray may be the same genomic segment of DNA (or the same gene) from different individuals, or may be different, overlapped genomic clones. Each of the

subarrays may represent replica spotting of the same samples. In one example, a selected gene segment may be amplified from 64 patients. For each patient, the amplified gene segment may be in one 96-well plate (all 96 wells containing the same sample). A plate for each of the 64 patients is prepared. By using a 96-pin device, all samples may be spotted on one 8 x 12 cm membrane.

- 5 Subarrays may contain 64 samples, one from each patient. Where the 96 subarrays are identical, the dot span may be 1 mm<sup>2</sup> and there may be a 1 mm space between subarrays.

Another approach is to use membranes or plates (available from NUNC, Naperville, Illinois) which may be partitioned by physical spacers *e.g.* a plastic grid molded over the membrane, the grid being similar to the sort of membrane applied to the bottom of multiwell plates, or hydrophobic  
10 strips. A fixed physical spacer is not preferred for imaging by exposure to flat phosphor-storage screens or x-ray films.

The present invention is illustrated in the following examples. Upon consideration of the present disclosure, one of skill in the art will appreciate that many other embodiments and variations may be made in the scope of the present invention. Accordingly, it is intended that the broader  
15 aspects of the present invention not be limited to the disclosure of the following examples. The present invention is not to be limited in scope by the exemplified embodiments which are intended as illustrations of single aspects of the invention, and compositions and methods which are functionally equivalent are within the scope of the invention. Indeed, numerous modifications and variations in the practice of the invention are expected to occur to those skilled in the art upon  
20 consideration of the present preferred embodiments. Consequently, the only limitations which should be placed upon the scope of the invention are those which appear in the appended claims.

All references cited within the body of the instant specification are hereby incorporated by reference in their entirety.

## 5.0 EXAMPLES

### 25 5.1 EXAMPLE 1

#### Novel Nucleic Acid Sequences Obtained From Various Libraries

A plurality of novel nucleic acids were obtained from cDNA libraries prepared from various human tissues and in some cases isolated from a genomic library derived from human chromosome using standard PCR, SBH sequence signature analysis and Sanger sequencing techniques. The  
30 inserts of the library were amplified with PCR using primers specific for the vector sequences which flank the inserts. Clones from cDNA libraries were spotted on nylon membrane filters and screened with oligonucleotide probes (*e.g.*, 7-mers) to obtain signature sequences. The clones were clustered into groups of similar or identical sequences. Representative clones were selected for sequencing.

In some cases, the 5' sequence of the amplified inserts was then deduced using a typical Sanger sequencing protocol. PCR products were purified and subjected to fluorescent dye terminator cycle sequencing. Single pass gel sequencing was done using a 377 Applied Biosystems (ABI) sequencer to obtain the novel nucleic acid sequences. In some cases RACE (Rapid Amplification of cDNA Ends) was performed to further extend the sequence in the 5' direction.

## 5.2 EXAMPLE 2

### Novel Contigs

The novel contigs of the invention were assembled from sequences that were obtained from a cDNA library by methods described in Example 1 above, and in some cases sequences obtained from one or more public databases. The sequences for the resulting nucleic acid contigs are designated as SEQ ID NO: 1-30368 and are provided in the attached Sequence Listing. The contigs were assembled using an EST sequence as a seed. Then a recursive algorithm was used to extend the seed EST into an extended assemblage, by pulling additional sequences from different databases (*i.e.*, Hyseq's database containing EST sequences, dbEST version 115, gb pri 115, and UniGene version 103, and exons from public domain genomic sequences predicted by GenScan) that belong to this assemblage. The algorithm terminated when there was no additional sequences from the above databases that would extend the assemblage. Further, the inclusion of component sequences into the assemblage was based on a BLASTN hit to the extending assemblage with BLAST score greater than 300 and percent identity greater than 95%.

The novel predicted polypeptides (including proteins) encoded by the novel polynucleotides (SEQ ID NO: 1-30368) of the present invention are incorporated in the attached Sequence Listing. A subset the predicted polypeptide sequences contain an unknown amino acid, a stop codon, a possible nucleotide deletion or a possible nucleotide insertion. These sequences have been shown in their entirety with the special characters in Table 2. Table 2 also shows the corresponding start and stop nucleotide locations to each of SEQ ID NO: 1-30368. Table 2 also indicates the method by which the polypeptide was predicted. Method A refers to a polypeptide obtained by using a software program called FASTY (available from <http://fasta.bioch.virginia.edu>) which selects a polypeptide based on a comparison of the translated novel polynucleotide to known polynucleotides (W.R. Pearson, Methods in Enzymology, 183:63-98 (1990), herein incorporated by reference). Method B refers to a polypeptide obtained by using a software program called GenScan for human/vertebrate sequences (available from Stanford University, Office of Technology Licensing) that predicts the polypeptide based on a probabilistic model of gene structure/compositional properties (C. Burge and S. Karlin, J. Mol. Biol., 268:78-94 (1997), incorporated herein by



reference). Method C refers to a polypeptide obtained by using a Hyseq proprietary software program that translates the novel polynucleotide and its complementary strand into six possible amino acid sequences (forward and reverse frames) and chooses the polypeptide with the longest open reading frame.

5           The nearest neighbor results for SEQ ID NO: 1-30368 were obtained by a BLASTP version 2.0a1 19MP-WashU search against Genpept release 121 and Geneseq release 200103 (Derwent), using BLAST algorithm. The nearest neighbor result showed the closest homologue for SEQ ID NO: 1-30368. The nearest neighbor results for SEQ ID NO: 1-30368 are incorporated in the attached Sequence Listing.

10           Using eMatrix software package (Stanford University, Stanford, CA) (Wu et al., J. Comp. Biol., Vol. 6 pp. 219-235 (1999) herein incorporated by reference), all the sequences were examined to determine whether they had identifiable signature regions. The attached Sequence Listing provides the results obtained by eMatrix analysis for each polypeptide as follows: the signature region found in the indicated polypeptide sequences, the description of the signature,  
15           the eMatrix p-value(s) and the position(s) of the signature within the polypeptide sequence.

          Using the pFam software program (Sonnhammer et al., Nucleic Acids Res., Vol. 26(1) pp. 320-322 (1998) herein incorporated by reference) all the polypeptide sequences were examined for domains with homology to certain peptide domains. The attached Sequence Listing provides the results obtained by PFAM analysis for each peptide, namely: the name of  
20           the domain found, the description, the p-value and the pFam score for the identified domain within the sequence.

          Tables 1 and 2 follow. Table 1 shows the various tissue sources of SEQ ID NO: 1-30368. Table 2 shows the start and stop nucleotides for the translated amino acid sequence for which each assemblage encodes. Table 2 also provides a correlation between the amino acid sequences set forth  
25           in the Sequence Listing, the nucleotide sequences set forth in the Sequence Listing and the SEQ ID NO: in USSN 09/540,217

Table I

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
adult brain	GIBCO	AB3001	39-41 192 197-200 315-316 540-542 576-580 608-622 635 1004 1185-1187 1273-1279 1431 1474 1721-1722 2036 2136-2137 2457 2471-2474 2513 2599-2603 2988- 2989 3105-3106 3212 3276-3277 3306-3308 3352 3365 3374-3376 3433 3448-3450 3555-3558 3693 3949-3953 4067-4072 4160-4162 4558-4560 4581-4582 4612-4614 4837-4840 5483-5484 5603-5606 5700 5802 5980-5984 6135-6136 6403-6404 6452-6453 7209-7212 7447-7449 7452-7460 7536-7541 7554-7555 7622-7623 7630-7636 7660-7665 7701-7703 7771 7778-7783 7798-7801 7921- 7923 7994 8010-8012 8025-8026 8145-8151 8227-8229 8415 8497-8499 8936-8938 8986-8991 9002-9004 9013- 9017 9337-9338 9366-9368 9375-9376 9391-9392 9395- 9396 9431-9436 9443 9475-9476 9517-9518 9522-9525 9586-9589 9603-9604 9851-9852 9854-9855 9874-9895 9905-9908 9947-9952 9969-9980 9986-9992 10025- 10026 10033-10037 10167-10172 10277 10480-10482 10488-10489 10498-10503 10520-10522 10537-10538 10592-10594 10628-10630 11226-11227 11339-11344 11406-11407 11431-11432 11731-11734 12150-12151 12239 12241-12244 12555-12559 12615-12618 12785- 12787 12978-12981 12984-12985 12997-12999 13567- 13568 13592-13595 13606-13608 13873-13875 13999- 14004 14360-14369 14650-14651 14684-14685 15013- 15018 15096 15174-15181 15209-15210 15250-15251 15257 15323-15324 15548-15552 15568-15572 15576- 15577 15588-15589 15699-15700 15881-15883 16438- 16439 16473-16478 16496-16497 16609-16611 16686- 16693 16700-16701 16727-16729 16836-16842 16934- 16937 16949-16953 17455-17456 17857-17861 17958- 17963 18029-18030 18136-18138 18423-18425 18516- 18518 18535-18537 18624-18626 18668-18672 18719- 18722 18750-18756 18790-18793 18802-18804 18836- 18838 18899-18903 18919-18921 18943-18945 18947- 18950 18964-18969 18989-18990 19013-19017 19045- 19048 19057-19065 19142-19147 19154-19155 19224 19316-19317 19345-19349 19355-19360 19362 19370 19385-19389 19415-19417 19422-19431 19442-19444 19503 19560-19562 19566 19604-19607 19693 19709- 19710 19727-19732 19736-19742 19772 19804-19808 19921-19929 19933-19938 19943-19946 19969-19981 20015-20017 20029-20043 20087-20094 20099-20102 20111-20112 20122-20127 20161-20164 20167-20171 20180-20181 20189-20194 20198-20199 20215-20218 20281-20282 20289 20321-20324 20349-20354 20361 20393-20400 20415-20417 20437-20440 20524-20535 20542-20545 20554-20558 20607-20612 20614-20615 20646-20652 20698-20707 20718-20725 20727-20732 20789-20791 20806-20812 20844-20849 20888-20889 20926 20938-20942 20999-21004 21027-21031 21062- 21066 21072-21075 21137-21140 21145-21148 21153-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			21154 21272-21274 21277-21283 21410-21414 21434-21439 21485-21491 21495-21500 21647-21655 21729-21733 21929-21935 21958-21961 21973-21974 21978 22000-22006 22026-22029 22040-22041 22087-22088 22101-22107 22141-22143 22160 22250-22252 22284-22289 22309 22314-22317 22336-22342 22347-22348 22358-22359 22372 22405-22408 22495 22534-22539 22634-22643 22653-22654 22661-22662 22665-22667 22671-22674 22700-22701 22794-22796 22805-22809 22887-22891 22899-22900 22948-22950 22952-22953 22982-22986 22991-22994 23059-23060 23071 23141 23249 23251 23329-23337 23412-23414 23489-23490 23492-23493 23508-23509 23543-23544 23704 23834-23835 23890-23892 23959 24014-24018 25289-25290 25319-25321 25374-25375 25966-25968 26205-26206 26258-26259 26303 26316-26321 26327 26337 26373-26374 26596-26601 26788-26789 26843 26850-26852 26897 27067-27070 27100-27102 27150-27151 27247-27251 27304-27305 27439-27440 27493-27495 27636-27639 27750-27754 27814-27818 27861-27864 27890-27892 27989-27990 28099-28100 28311-28313 28424 28426-28428 29278-29283 29409-29416 29444 29718-29721 30141-30142
adult brain	GIBCO	ABD003	30 51-52 144-145 170-171 180-181 202-203 255-256 302 315-316 319-323 326-327 395 406-407 412-413 464-465 540-542 549 553-554 576-578 626-637 652-653 656 697-699 716-717 721-725 785-786 825 847-855 952 967 969-971 1001-1004 1047 1067-1071 1092-1094 1097-1098 1123-1127 1169-1179 1259-1262 1269-1279 1307 1431 1453-1454 1471-1477 1483 1490-1492 1602-1603 1644-1645 1667-1668 1840 1860 1887-1889 1931 1967 1986-1987 2058 2275-2276 2383-2388 2455-2457 2469 2471-2474 2513 2540-2541 2577-2584 2591 2599-2603 2663-2665 2692-2694 2710 2814-2815 2926 2937-2938 2975-2977 3001 3006-3008 3090 3151-3154 3205-3207 3366 3433 3451 3472-3473 3531-3534 3555-3558 3590 3624 3635 3671-3672 3685 3705-3706 3735-3736 3949-3953 4053-4054 4080-4082 4124-4126 4406-4407 4489-4493 4517-4522 4562-4573 4623-4639 4785-4789 4845-4851 4857-4861 4874-4889 4897-4898 4971-4974 5092-5094 5267-5268 5291-5294 5335-5336 5480-5482 5608-5609 5700 5762 5802 5808-5812 5919-5921 5956-5957 5980-5984 5986-5988 6011-6021 6140-6143 6293-6296 6400 6403-6404 6406-6410 6651-6653 6662-6664 6791-6794 6877-6878 6932-6938 7214-7215 7245-7248 7447-7449 7536-7541 7611-7612 7624-7629 7640-7642 7668-7670 7695-7696 7757-7759 7771 7778-7786 7789-7793 7798-7801 7890 7898-7900 7976 7986-7987 7995-7998 8002 8017-8019 8049-8056 8069 8117-8121 8152-8156 8162 8174-8177 8182-8183 8242-8246 8250 8301-8306 8343-8344 8351-8360 8363-8366 8368-8370 8409-8414 8497-8499 8512-8513 8543-8550 8607-8609 8612-8616 8754-8759 8762-8766 8768-8770 8777-8779 8917-8918 9013-9017 9031-9035 9038-9045 9063-9067 9072-9074 9306-9313 9321-9323 9375-9376 9391-9392 9406-9407 9437-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9440 9444-9445 9454-9455 9517-9518 9531 9561-9562 9603-9604 9729-9731 9733-9738 9757-9758 9763-9767 9826 9828-9832 9851-9852 9854-9855 9864-9866 9874- 9897 9923-9924 9947-9953 9956-9957 9969-9980 10011 10015-10016 10033-10040 10167-10172 10265-10272 10277 10306 10449-10450 10470-10473 10498-10503 10537-10542 10592-10594 10607-10608 10612-10614 10624-10626 10628-10630 10638-10639 10870-10875 10881-10883 10886-10889 10891-10893 10895-10898 10904-10905 10913-10914 10980-10985 11035-11037 11066-11068 11081 11123-11124 11274-11275 11295- 11299 11339-11350 11419-11422 11465-11466 11582- 11583 11586-11602 11607-11608 11679 11693-11695 11731-11734 11749-11750 11775-11776 11780-11782 11803-11804 11835-11836 11840 11842-11855 11901- 11905 11937-11938 12042-12044 12121-12126 12131- 12132 12150-12151 12186-12189 12194-12196 12206- 12208 12283-12284 12361 12555-12559 12573-12574 12581-12582 12615-12618 12637 12653-12654 12673- 12675 12723 12760-12762 12785-12787 12796-12798 12805-12806 13077-13079 13083-13086 13576-13579 13592-13595 13603-13612 13638-13641 13664 13865- 13866 13885-13887 13903-13905 13994-13997 14008- 14020 14023-14026 14044-14045 14130-14131 14141- 14142 14187-14195 14264-14265 14268-14269 14299- 14301 14313-14317 14346 14360-14369 14604 14607- 14609 14640-14642 14650-14651 14684-14685 14789- 14791 15019-15024 15093-15095 15182-15183 15218- 15219 15257-15259 15290-15291 15406-15407 15486- 15489 15532-15535 15543-15546 15553-15556 15576- 15577 15588-15589 15631-15632 15699-15700 15988- 15990 16006-16015 16044-16046 16075-16079 16086- 16088 16107-16109 16172 16397-16398 16422-16429 16451-16452 16470-16478 16498-16500 16609-16611 16636-16637 16642 16652 16698-16705 16836-16842 16934-16939 17010-17014 17284-17285 17330-17332 17963 18015-18016 18029-18030 18136-18138 18400- 18402 18419-18420 18423-18425 18492-18494 18516- 18518 18527 18533-18537 18617 18625-18626 18633- 18637 18671-18672 18689-18692 18717-18722 18750- 18756 18759-18761 18771-18772 18778-18793 18796 18802-18804 18811-18813 18822-18824 18856-18880 18882-18888 18899-18903 18919-18921 18934-18939 18941 18947-18951 18955-18959 18975-18977 18989- 18990 18993-18996 19005-19009 19013-19018 19045- 19048 19057-19058 19062-19065 19074-19080 19102- 19105 19142-19147 19154-19155 19159 19209-19210 19213-19220 19251-19252 19257 19260-19262 19266- 19267 19306-19309 19316-19317 19355-19360 19362- 19364 19370 19373-19374 19380-19384 19387-19389 19395-19400 19415-19417 19422-19434 19442-19444 19446-19448 19461 19487 19526-19529 19536 19560- 19562 19566 19604-19607 19626 19656-19657 19667- 19668 19693 19698 19709-19710 19727-19742 19759- 19763 19800-19808 19813-19815 19921-19929 19933-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19946 19953-19957 19962-19963 19972-19981 20029- 20043 20072-20079 20099-20102 20106-20112 20114- 20120 20130 20146-20148 20151-20154 20161-20164 20167-20171 20180-20194 20198-20207 20222-20225 20235-20240 20257-20262 20265-20278 20289 20316 20321-20324 20328-20330 20345-20354 20360 20393- 20400 20415-20420 20425-20431 20441-20446 20469- 20474 20476-20479 20485-20490 20502-20503 20505- 20510 20514-20520 20542-20545 20548-20557 20559- 20562 20568 20607-20612 20614-20619 20644-20645 20649-20671 20681 20683-20685 20689-20692 20698- 20707 20712-20713 20718-20725 20753 20758-20767 20789-20797 20806-20812 20824-20849 20863 20897- 20900 20927-20928 20938-20942 20952-20954 20999- 21004 21027-21045 21062-21066 21069-21075 21105- 21111 21141-21142 21153-21154 21171-21174 21197- 21198 21202-21207 21225-21226 21229-21235 21237- 21247 21256-21262 21272-21274 21277-21280 21297- 21298 21301-21303 21351-21352 21434-21439 21446- 21450 21467-21469 21485-21491 21647-21655 21712- 21717 21729-21733 21881-21885 21899-21902 21905- 21910 21917-21921 21924 21929-21938 21948-21950 21955-21957 21971-21972 21978-21982 22000-22015 22020-22029 22042-22046 22080-22088 22090-22094 22101-22107 22117-22119 22141-22151 22160 22169- 22170 22187-22192 22208-22226 22230 22251-22252 22261-22264 22277-22289 22300-22302 22318 22329- 22332 22343-22350 22358-22359 22365-22371 22373 22381-22388 22399-22404 22409-22410 22434-22435 22440-22448 22495 22559 22571-22581 22607-22609 22644-22651 22653-22654 22661-22662 22665-22667 22671-22674 22703-22706 22760-22762 22794-22796 22823-22829 22857-22858 22870-22874 22881-22893 22923-22924 22948-22954 22973 22982-22986 23007- 23021 23047-23052 23070 23080-23083 23112-23116 23212-23215 23229-23233 23237-23239 23249 23251 23329-23337 23343-23344 23382-23390 23399 23412- 23421 23486-23487 23489-23490 23492-23493 23495- 23496 23508-23509 23704 23718-23721 23726-23730 23761-23763 23771-23780 23800 23802-23809 23816- 23819 23827-23833 23836-23837 23843-23844 23878- 23880 23890-23892 23941-23956 23959 24005-24011 24014-24018 24021-24024 24772-24774 25085-25090 25279-25290 25307-25308 25319-25322 25373-25375 25403-25407 25598-25603 26196-26199 26209-26213 26217-26218 26221-26223 26237-26239 26258-26259 26266 26304 26327 26337 26347-26348 26350-26352 26359-26365 26373-26374 26376-26377 26395 26423 26469-26470 26596-26601 26665-26666 26681-26683 26691-26694 26736 26755-26756 26788-26789 26844- 26845 26876-26879 27044-27047 27053-27057 27067- 27070 27100-27102 27105 27133-27134 27193-27200 27206 27209-27213 27218 27254-27260 27269-27270 27281-27282 27299-27301 27304-27305 27334 27340- 27342 27493-27495 27501-27503 27544-27545 27574-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27577 27600-27606 27700-27701 27814-27815 27823-27824 27861-27864 27890-27892 27940-27942 27970 28040-28041 28099-28100 28142-28145 28186 28263-28268 28286 28311-28313 28324-28345 28361-28362 28424 29301-29303 29328-29337 29339-29340 29343-29345 29409-29416 29594-29604 29718-29721 29940-29949 29960-29961 30141-30142 30150-30156 30218-30220 30233-30235 30240-30242
adult brain	Clontech	ABR001	15 227-230 329-330 414-418 716-717 934-935 1136-1139 1436-1437 1472-1473 1505-1506 1593-1594 2058 2132-2137 2139-2142 2378-2381 2407 2550-2552 2577-2584 2587-2588 3094-3096 3221-3222 3377 3414-3417 3526-3529 3861 3949-3953 4340-4341 4515-4516 4574-4576 4857-4861 4986-4987 5092-5094 5654 5700 5864-5866 5992 6140-6143 6540-6541 6570-6571 6814-6831 7668-7670 7802-7804 7994 8008-8009 8017-8019 8111 8129-8131 8160 8162 8242-8246 8368-8369 8453-8454 8512-8513 8762-8766 8982-8983 9339 9391-9392 9510-9516 9531 9666 9682-9683 9828 10167-10172 10312 10520-10522 10913-10914 10959-10962 11064 11071-11075 11345-11350 11805-11808 11835-11836 11900 11937-11938 12050-12056 12194-12197 12796-12798 13925-13926 14604 14714-14717 14785-14786 15182-15183 15400-15403 15462-15463 15545-15546 15563-15564 16123-16128 16174-16176 16570-16573 16601 16623 16642 16851-16853 16924 16934-16937 17963 18015-18016 18046-18048 18500-18501 18516-18518 18535 18655-18658 18671-18672 18762-18766 18955-18959 19018 19045-19048 19207-19208 19257 19350 19380-19384 19447-19449 19484-19486 19526-19529 19659-19661 19670-19671 19706-19710 19764-19767 19804-19808 19924-19925 19962-19963 19965-19967 20120 20189-20194 20231-20234 20271-20273 20412-20413 20441-20446 20456-20468 20485-20494 20521-20523 20676-20680 20710-20711 20718-20725 20733-20734 20747-20751 20824-20826 20836-20843 20926 21060-21061 21069-21075 21105-21111 21153-21154 21353-21354 21410-21414 21454-21457 21554-21556 21647-21655 21924 21929-21935 22003-22015 22040-22041 22045-22046 22077-22083 22108-22116 22165-22168 22246-22249 22284-22289 22373-22374 22411-22432 22625-22628 22637-22643 22671-22674 23080-23083 23112-23119 23141 23201-23202 23358-23360 23412-23418 23526-23531 23761 23793-23797 23802-23805 23878-23880 24014-24018 24105-24113 24116 25403-25407 26232-26233 26270-26272 26285-26290 26685-26686 27012-27014 27028-27029 27098-27099 27377-27378 27493-27495 27544-27545 27623 27640-27641 27729-27739 27840-27844 27970 28361-28362 28424 29427-29438 30233-30235
adult brain	Clontech	ABR006	21 360-361 510-511 546-547 579-580 792-795 969-971 1165-1168 1228-1231 1252-1256 1453-1454 1472-1473 1681-1687 1975-1977 2044-2045 2214-2219 2231-2232 2270-2271 2306 2396-2400 2458 2826-2827 2951-2955 3158 3274-3275 3313-3314 3326-3331 3483-3484 3686

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			3856-3857 3939-3941 4080-4082 4091-4095 4173 4441- 4443 4484-4485 4765-4773 4785-4789 4795-4809 4988 4992 5364 5930-5931 5971-5972 6155-6159 6450-6451 7353-7367 7374 7580-7597 7701-7703 7784-7786 7972- 7975 8020 8101-8104 8106 8152-8156 8162 8184-8185 8342 8370 8489 8758-8759 8936-8938 8978-8981 9009- 9017 9029-9030 9063-9067 9069-9078 9306-9311 9339 9479-9485 9517-9518 9828 9874-9895 9909-9912 10033- 10037 10254-10261 10498-10503 10523-10532 10624- 10639 10923-10926 10936-10937 11328-11331 11708- 11710 12573-12574 12743-12750 12785-12787 13556- 13559 13660-13675 13847-13849 14054-14056 14170- 14172 14347-14348 14390 14604 14666-14668 14996 15097 15257 15283-15286 15336-15340 15397-15398 15576-15577 15886-15887 15896-15905 16022-16023 16237 16461-16464 16496-16497 16623 16643-16648 16652 16752-16753 17238-17241 17369-17370 17937- 17939 17956-17957 18029-18030 18044-18045 18049- 18064 18393-18394 18411-18418 18423-18425 18527 18536-18537 18719-18722 18762-18766 18778-18780 18829-18834 18899-18903 18934-18935 19001-19004 19159 19207-19208 19211-19212 19221-19222 19273 19350 19484-19486 19670-19671 19698 19727-19732 19736-19742 19800-19808 19814-19815 19855-19856 19939 19943-19946 19951-19952 19972-19980 20069- 20071 20087-20094 20099-20102 20122-20127 20157- 20181 20200-20207 20274-20278 20316 20321-20324 20414 20441-20446 20456-20468 20491-20494 20524- 20535 20542-20545 20547 20554-20557 20607-20612 20676-20680 20718-20725 20747-20751 20897-20900 21005-21008 21069-21071 21088-21096 21145-21148 21157-21169 21171-21174 21176-21180 21213-21215 21241-21247 21263-21266 21272-21274 21277-21280 21343-21350 21377-21397 21463-21465 21554-21556 21911-21912 21929-21935 21955-21957 21973-21974 21978 22007-22015 22019 22045-22046 22070-22076 22080-22088 22090-22091 22108-22114 22120-22127 22135-22138 22144-22151 22158-22159 22246-22249 22284-22289 22347-22348 22375-22382 22389-22432 22625-22628 22653-22654 22671-22674 22833-22834 22881-22886 22916-22922 23007-23021 23071 23080- 23083 23223-23225 23229-23233 23358-23360 23379- 23381 23412-23414 23434-23438 23486 23506-23507 23543-23544 23555-23565 23771-23780 23827-23833 23841-23844 23941-23956 24035-24040 25213-25219 25279-25290 25315 25383-25415 26235-26236 26280 26310-26314 26337 26361-26365 26409-26410 26425- 26427 26603 26687 26860-26862 27067-27070 27100- 27102 27105 27193-27200 27209-27213 27441-27443 27562-27563 27589-27592 27821-27822 27825-27838 28146-28147 28296 28464 29328-29331 29343-29345 29409-29416 29439-29445 29940-29949 30205 30221- 30223
adult brain	Clontech	ABR008	30 32-33 42-44 101 167 180-181 197-200 233-234 307- 308 319-327 329-330 332 414-420 540-545 549 576-580

Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			612 652 656 667-668 694-695 706-711 716-717 763 845- 848,852-855.864-867 895-898 900 910 912 927 949-950 953-954 981-985 1001-1005 1029 1044-1046 1097-1098 1107 1123-1127 1131-1133 1158-1161 1169-1179 1185- 1187 1194 1196-1198 1203-1204 1210-1211 1232-1237 1273-1279 1304 1307 1409-1410 1432-1435 1470 1483 1508-1510 1512 1514 1566-1575 1577-1589 1591-1594 1596 1599-1610 1618-1619 1622-1626 1629 1632-1636 1640-1641 1643-1648 1675 1678-1687 1692-1693 1705- 1714 1717-1719 1721-1723 1828 1838 1851 1853-1854 1885-1886 1905-1907 1923-1927 1931 1956-1959 1961- 1962 1967-1988 1990 2144-2150 2194-2203 2206-2219 2231-2232 2270-2274 2284-2298 2306 2379-2380 2383- 2415 2457 2475 2570-2590 2592-2603 2607 2663-2665 2675-2678 2708 2710 2724-2726 2730-2732 2781-2782 2806 2808-2811 2826-2827 2871-2876 2886-2887 2889- 2891 2920 2923-2924 2934-2935 2948-2949 2951-2955 2983-2986 2988-2989 3001 3016-3017 3039 3090 3098- 3100 3105-3106 3130 3147-3169 3182-3187 3192-3193 3195-3212 3214-3215 3219-3229 3237-3241 3244-3246 3250-3272 3276-3277 3290 3309 3313-3314 3322-3323 3326-3331 3377 3414-3420 3426-3433 3477-3478 3507 3512-3514 3518-3520 3526-3529 3548 3555-3558 3593 3595-3599 3604 3618-3619 3635-3636 3657-3660 3671- 3672 3683-3684 3687-3691 3693 3704 3735-3736 3752- 3753 3780-3817 3862 3866-3867 3873-3875 3911 3949- 3953 4053-4054 4062-4085 4090 4121-4126 4131 4141- 4143 4151-4155 4174 4209-4211 4484-4485 4515-4516 4534 4536-4539 4541-4542 4546 4574-4578 4593-4594 4660-4662 4700 4720-4725 4751-4758 4762-4773 4777- 4779 4785-4789 4795-4809 4819-4823 4825-4826 4854- 4856 4874-4889 4946-4948 4950-4956 4958-4963 4970 4984-4987 5100-5108 5122 5124-5126 5131-5132 5146 5154-5179 5190-5191 5246-5252 5272-5275 5331-5332 5485-5486 5525-5526 5532-5533 5557-5560 5567-5568 5655 5695-5698 5744-5747 5803-5804 5856-5858 5885- 5886 5899-5902 5973-5975 5977-5978 6005-6006 6010- 6021 6026-6042 6154-6161 6166-6168 6184-6185 6209- 6211 6219-6222 6235-6237 6297-6298 6341 6350-6351 6367 6378 6406-6410 6439-6440 6450-6451 6542-6543 6549-6577 6582-6584 6622 6624 6640-6644 6662-6664 6669-6670 6773-6778 6832-6850 6884-6885 6898-6899 6943-6958 7187-7191 7198-7203 7206-7208 7213-7215 7236-7237 7249-7266 7275-7278 7350-7352 7364-7365 7551-7561-7562 7580-7600 7615-7617 7630-7636 7668- 7673 7681-7687 7693-7696 7698 7734-7736 7745-7746 7763-7771 7787-7788 7798-7801 7805-7808 7815-7818 7898-7901 7904-7912 7917-7918 7921-7923 7947-7948 7978-7983 7986-7987 7993-7994 8002 8006-8007 8010- 8016 8043-8045 8047-8048 8059-8068 8097 8107-8108 8112-8116 8132-8144 8152-8156 8160-8177 8184-8185 8187-8200 8204-8210 8227-8232 8253-8257 8269 8297- 8307 8342 8347-8348 8351-8360 8363-8364 8391-8399 8409-8415 8420-8421 8430-8452 8457-8458 8461-8477 8484-8505 8509 8512-8513 8543-8550 8554-8555 8588-



Tissue rigin	RNA Source	Library Name	SEQ ID NOS:
			8597 8612-8616 8688-8690 8709 8724-8737 8758-8759 8771-8776 8914-8945 8998-9001 9009-9020 9036 9049- 9067 9069-9071 9075-9078 9317-9318 9337-9339 9375- 9376 9382 9427-9428 9431-9433 9437-9440 9456-9458 9479-9481 9510-9518 9529-9531 9552-9554 9563-9566 9585 9590-9592 9594-9602 9617-9626 9667 9672 9732 9745-9754 9786-9790 9792-9795 9808-9812 9828-9832 9857-9861 9867-9868 9874-9895 9899-9904 9909-9912 9925-9953 9965-9980 9984-9992 9997-10009 10033- 10037 10164-10172 10265-10267 10320-10323 10326- 10328 10454-10466 10470-10482 10498-10505 10513- 10515 10520-10522 10543-10549 10595-10599 10603- 10606 10609-10611 10615-10630 10640-10644 10780- 10782 10834 10876 10881-10883 10895-10898 10906 10930-10933 10936-10937 10940 10965-10966 10972 10976-10978 10980-10985 11024-11027 11042-11044 11064-11070 11080 11160 11204-11207 11212-11216 11228-11229 11317-11321 11345-11350 11397-11398 11476-11478 11711-11712 11743-11744 11757-11760 11805-11809 11840 11842 11878-11879 11890-11891 11901-11905 11910-11911 11916 11934 11937-11938 11947-11950 11971-11973 12011-12013 12050-12057 12102-12110 12112-12115 12117-12118 12144-12146 12190-12191 12194-12196 12202-12210 12215-12217 12225 12241-12253 12255-12258 12374-12377 12398- 12401 12403-12405 12408-12409 12412-12419 12436 12545-12546 12571-12574 12593-12597 12610-12612 12625-12631 12637 12641-12645 12648-12654 12659- 12662 12668-12669 12723 12785-12787 12869 12898- 12899 13100-13106 13499-13528 13531-13539 13545- 13559 13571-13573 13576-13580 13584-13588 13632- 13633 13638-13641 13645-13651 13668-13672 13757- 13759 13850-13853 13885-13887 13898 13918-13919 13930 13994-13997 13999-14003 14044-14045 14058- 14059 14061-14063 14092-14094 14105-14106 14170- 14172 14192-14195 14199-14201 14209-14215 14227 14236-14238 14261-14263 14283-14291 14307-14317 14344-14345 14360-14369 14389-14392 14452-14455 14570-14574 14604 14607-14609 14650-14651 14681- 14682 14684-14704 14709-14719 14789-14791 14822- 14838 14846-14847 14871-14874 14991-14992 14994- 14996 14998-15002 15009-15024 15093-15095 15151- 15157 15187-15189 15212-15215 15218-15219 15222- 15224 15243-15248 15250-15251 15257-15259 15283- 15286 15288-15289 15292-15293 15300-15301 15329- 15340 15343-15344 15347-15359 15381-15385 15397- 15398 15404-15407 15443-15453 15460-15461 15464- 15465 15468-15472 15476-15478 15485 15491-15525 15543-15544 15563-15564 15567-15577 15591-15592 15606-15607 15623-15628 15661-15663 15688-15694 15699-15700 15705-15708 15766-15771 15780-15788 15855-15879 15890-15895 15902-15903 15961-15963 15981-15982 15988-15990 16030-16043 16053-16058 16060-16061 16096-16097 16118-16120 16123-16128 16130-16132 16135 16138-16139 16167-16172 16174-

Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			16176 16200-16201 16218 16224-16225 16233-16235 16237 16290-16295 16342-16344 16350-16351 16359 16422-16429 16451-16452 16456-16460 16470-16472 16479-16481 16496-16497 16501-16504 16553-16556 16574-16577 16614-16615 16623 16628-16631 16635 16643-16655 16710-16712 16714-16723 16730-16733 16738-16739 16742 16745 16747-16748 16752-16753 16765-16767 16812-16821 16836-16842 16854-16858 16860-16870 16878-16898 16903-16909 16911-16912 16925-16932 16946-16948 16967-16974 16996-16999 17018-17023 17067-17069 17074-17079 17115 17117- 17132 17137-17142 17145-17146 17149-17167 17202- 17203 17242 17244-17248 17263-17267 17284-17306 17330-17332 17359-17360 17366-17370 17396 17457- 17462 17489-17490 17571-17574 17857-17861 17922- 17926 17930-17931 17933-17939 17949-17950 17953- 17955 17958-17962 17995-18004 18020-18022 18029- 18030 18038-18042 18055-18060 18097-18134 18136- 18138 18269-18270 18403 18421-18422 18500-18501 18516-18518 18533-18535 18621-18624 18651-18658 18661 18668-18672 18717-18726 18745-18749 18759- 18760 18762-18766 18787-18793 18806-18807 18829- 18834 18846-18853 18857-18880 18894-18896 18904- 18907 18915-18933 18947-18950 18964-18969 18993- 18995 19001-19009 19012 19029-19035 19045-19048 19055 19057-19065 19068-19070 19074-19080 19091- 19092 19096-19101 19142-19147 19159-19161 19211- 19220 19224 19254-19255 19257 19266-19267 19274 19295-19296 19306-19307 19310-19312 19316-19317 19331-19340 19345-19354 19375-19379 19385-19389 19395-19402 19422-19431 19446-19448 19458-19461 19464-19486 19510-19524 19526-19537 19539-19554 19560-19562 19564-19566 19598-19601 19617-19619 19627 19659-19668 19670-19678 19683-19687 19698- 19699 19706-19710 19727-19735 19743-19748 19757- 19771 19773-19808 19813-19815 19819-19822 19855- 19856 19921-19923 19926-19929 19938-19939 19943- 19946 19950 19953-19957 19962-19963 19965-19967 19972-19981 19995-20017 20026-20027 20053-20079 20087-20094 20099-20105 20111-20112 20120-20154 20157-20181 20189-20194 20198-20221 20231-20241 20244-20252 20257-20262 20265-20270 20274-20278 20281-20282 20286-20287 20289-20296 20299 20328- 20330 20336-20338 20345-20354 20357-20359 20401- 20405 20414-20417 20425-20431 20437-20471 20475- 20479 20491-20496 20505-20510 20514-20536 20542- 20545 20547 20554-20568 20575-20578 20607-20612 20614-20615 20625-20628 20631-20636 20642-20643 20646-20687 20689-20692 20708-20734 20739-20757 20767 20789-20797 20801-20812 20822-20823 20827- 20849 20853-20854 20863 20865 20879-20880 20890- 20901 20927-20932 20943 20948-20949 20952-20954 20977-20984 20999-21008 21016-21020 21032-21045 21062-21068 21076-21087 21101-21111 21122-21127 21133-21135 21153-21154 21157-21169 21171-21174

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			21176-21193 21225-21226 21237-21247 21253-21271 21277-21280 21284-21294 21297-21298 21326-21334 21343-21354 21377-21397 21410-21414 21434-21439 21454-21461 21480-21482 21485-21500 21532-21533 21554-21556 21568-21572 21647-21655 21712-21724 21877-21894 21905-21950 21955-21966 21971-21972 21979-21987 21989-22002 22007-22018 22020-22029 22040-22041 22045-22049 22056-22059 22074-22083 22087-22127 22135-22138 22144-22156 22158-22159 22161-22175 22195-22198 22208-22211 22218-22224 22243-22245 22261-22270 22277-22299 22309 22312- 22313 22329-22332 22343-22346 22349-22351 22358- 22359 22365-22371 22381-22382 22389-22392 22394- 22398 22434-22435 22495 22531-22533 22545-22559 22561-22568 22571-22581 22599-22602 22607-22609 22625-22652 22671-22674 22700-22701 22707 22712- 22715 22730-22731 22743-22748 22767 22805-22816 22823-22827 22833-22834 22843-22845 22854-22856 22881-22886 22916-22924 22939 22941-22947 22952- 22953 22971 22977 22980-22986 23007-23028 23047- 23052 23064-23067 23071-23073 23080-23083 23085- 23086 23098-23101 23125-23136 23206-23209 23223- 23225 23229-23233 23237-23239 23245 23329-23339 23353-23354 23356-23360 23373-23374 23379-23381 23392-23395 23400-23401 23415-23419 23422 23425- 23430 23434-23447 23473-23486 23489-23490 23492- 23498 23506-23507 23514 23543-23544 23549-23565 23587-23598 23682-23686 23704 23718-23721 23731- 23736 23742 23762-23763 23768-23805 23810-23819 23827-23835 23839-23842 23845-23848 23882 23941- 23956 23959 23999-24001 24005-24011 24014-24018 24021-24024 24029-24033 24035-24040 24130-24144 24495-24498 25085-25090 25114-25126 25258-25297 25306-25308 25314-25318 25322-25330 25334-25337 25359-25363 25376-25377 25382-25401 25403-25407 25410-25413 25849-25852 26029-26031 26196-26199 26217-26218 26258-26259 26265 26280 26284 26294- 26302 26310-26314 26327 26332-26337 26354-26355 26359-26365 26369 26373-26374 26378-26385 26395 26406-26407 26409-26411 26423 26425-26427 26429 26448-26452 26465-26466 26469-26546 26604-26606 26657-26659 26667-26668 26678-26680 26705-26707 26732 26737 26742 26748-26754 26831 26842 26844- 26845 26860-26862 26873-26875 26879 26888-26890 27012-27014 27028-27029 27091 27100-27102 27122- 27128 27147-27149 27193-27200 27218 27247-27251 27261-27265 27269-27270 27304-27314 27411-27431 27435-27440 27455 27463-27466 27476-27477 27498- 27500 27504-27507 27520-27521 27544-27545 27548- 27554 27557-27564 27574-27577 27602-27606 27624- 27634 27649-27654 27662-27689 27702-27706 27729- 27739 27750-27756 27784-27788 27790-27796 27799- 27802 27809-27813 27816-27820 27830-27838 27840- 27847 27853-27856 27865-27868 27890-27892 27938- 27939 28001-28004 28018 28050-28086 28092 28095-

Tissue rigin	RNA Source	Library Name	SEQ ID NOS:
			28132 28138-28156 28169-28172 28186 28192-28198 28219-28221 28272-28276 28286 28315-28319 28324- 28345 28415-28417 28458-28460 28464 28549-28555 28728-28731 29225-29231 29234-29241 29244-29245 29249-29270 29272-29276 29288-29289 29304-29308 29332-29337 29341-29358 29378-29379 29444 29468- 29472 29594-29604 29611-29613 29718-29721 29872- 29875 29940-29953 30135-30140 30184-30199 30205 30221-30223
adult brain	Clontech	ABR011	2458 6140-6143 7200-7201 8512-8513 9550-9551 9905- 9908 11274-11275 12194-12196 12642-12644 14261- 14263 17937-17938 18029-18030 18136-18138 18421- 18422 18535 19503 19814-19815 19921-19923 20505- 20509 20614-20615 20681 22243-22245 22399-22404 27067-27070 27100-27102 28361-28362 29339-29340 29343-29345 30218-30220
adult brain	BioChain	ABR012	315-316 2926 5919-5921 7778-7783 7794 7972-7975 9552-9554 10277 10306 10873-10875 12555-12559 14261-14263 14650-14651 15326-15328 16548-16549 16652 17454 19814-19815 20437-20440 21123-21127 21587-21646 21978 22358-22359 22663-22664 23358- 23360 23827-23833 26879 27067-27070 29339-29340 29432-29435 30141-30142
adult brain	Invitroge n	ABR013	1476-1477 2814-2815 3221-3222 4795-4809 4970 7815- 7818 9864-9866 10277 10638-10639 12194-12196 13638-13641 13918-13919 14261-14263 17454 19012 19207-19208 19814-19815 19972-19980 20718-20725 21467-21469 22040-22041 22098-22100 23063 23761 25322 26205-26206 26732 26853-26854 27179 27729- 27739
adult brain	Invitroge n	ABT004	51-52 255-256 315-316 428 466-467 654-655 785-786 832-836 847-848 895-898 949-950 1001-1003 1097-1098 1131-1133 1136-1139 1142-1152 1165-1189 1192 1194- 1200 1202 1273-1279 1359 1432-1435 1453-1454 1470 1569-1570 1644-1645 1902 1925-1927 2134-2135 2416 2471-2474 2663-2665 2675-2678 2724-2726 2826-2827 2886-2887 2923-2924 3266-3267 3352 3377 3477-3478 3512-3514 3522-3523 3685 4147-4148 4486-4487 4515- 4516 4562-4573 5073 5139 5291-5294 5493-5494 5695- 5698 5700 5803-5804 5863 5872 5899-5902 5929 6029- 6035 6166-6168 6293-6296 6488-6489 6551-6567 7216- 7219 7421-7423 7426-7442 7615-7617 7671-7673 7678- 7680 7693-7694 7916-7920 8010-8012 8020 8049-8056 8162 8184-8185 8253-8257 8323-8327 8363-8364 8370 8484-8486 8502-8503 8917-8918 9005-9006 9306-9311 9339 9391-9392 9522-9525 9585 9664-9665 9794-9795 9828 9833-9834 9986-9988 10032 10254-10261 10263- 10264 10268-10272 10278 10312 10449-10453 10498- 10503 10520-10522 10603-10606 10638-10644 10835- 10839 10877-10878 10881-10883 10899-10900 10919- 10922 10986-11005 11222-11224 11274-11275 11302- 11303 11406-11407 11669-11671 11673 11679 11715- 11716 11840 12194-12196 12430-12431 12470-12471 12562-12563 12671-12672 12720-12722 12785-12787 13100-13106 13918-13919 13999-14003 14044-14045

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			14098-14099 14117-14122 14141-14142 14166-14168 14227 14264-14265 14360-14369 14604 14714-14717 14981-14983 15019-15024 15112 15257 15292-15297 15329-15331 15381-15385 15397-15398 15408-15414 15543-15544 15869-15870 15884-15885 15896-15900 16121-16128 16168-16171 16174-16176 16233-16235 16408-16409 16498-16500 16570-16573 16609-16613 16624-16625 16702-16703 16716-16723 16738-16739 16851-16853 17268-17274 17292-17296 17454 17956- 17962 18536-18537 18624 18717-18722 18730-18732 18750-18756 18796 18842-18845 18897-18898 18925- 18933 18964-18969 18989-18990 19012 19074-19080 19148 19207-19208 19213-19220 19224 19253 19260- 19262 19274 19306-19312 19316-19317 19351-19354 19363-19364 19407-19411 19432-19434 19441 19511 19522-19524 19526-19529 19574-19578 19663-19666 19700-19705 19709-19710 19736-19742 19800-19803 19814-19815 19921-19923 19933-19937 19939 19950 19972-19981 20099-20102 20104-20105 20137-20148 20151-20154 20157-20164 20167-20171 20200-20207 20229-20230 20241 20257-20262 20271-20278 20281- 20282 20289 20305-20307 20437-20440 20447-20451 20497-20498 20514-20520 20524-20535 20537-20541 20559-20562 20575-20578 20625-20628 20649-20652 20681 20683-20685 20698-20707 20712-20713 20806- 20812 20824-20843 20865 20868-20871 20879-20880 20890-20900 20927-20928 20957-20962 21026 21101- 21111 21123-21127 21153-21154 21171-21174 21197- 21198 21229-21232 21241-21247 21263-21266 21284- 21296 21377-21397 21454-21457 21495-21500 21729- 21733 21788-21799 21899-21902 21911-21912 21917- 21921 21924 21936-21938 21958-21966 22007-22015 22019 22030-22034 22037-22039 22045-22046 22080- 22088 22092-22094 22097 22101-22107 22135-22138 22165-22168 22200-22203 22243-22245 22261-22264 22277-22289 22303-22309 22381-22382 22405-22408 22553-22558 22566-22568 22607-22617 22661-22662 22730-22731 22823-22827 22907-22908 22941-22947 22952-22953 23059-23060 23080-23083 23085-23090 23212-23215 23229-23233 23251 23321-23327 23399 23412-23414 23425-23427 23473-23474 23483-23485 23692-23693 23762-23763 23845-23848 23882 23890- 23902 23999-24001 24005-24011 24056 24481-24490 25085-25090 25319-25322 25331-25335 25366-25369 25374-25375 25403-25407 26140-26143 26189-26194 26205-26206 26258-26259 26327 26337 26349-26352 26354-26355 26357 26394 26406-26407 26469-26470 26476-26477 26604-26606 26737 26860-26862 27100- 27102 27218 27225 27261-27265 27304-27305 27497 27510-27511 27544-27545 27555-27556 27562-27563 27588 27602-27606 27649-27654 27726-27728 27805- 27806 27819-27820 28099-28100 28189-28190 28199- 28203 28468-28484 28511-28513 28580-28595 28910- 28913 29288-29289 29363 29718-29721 30085-30087 30135-30140 30224-30232 30236-30239

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
cultured preadipocytes	Stratagen	ADP001	180-181 221 333-335 373-374 395 398-399 461-463 534-535 576-578 619-620 716-717 1097-1098 1235-1237 1240-1241 1453-1454 1474 1705-1714 1912-1913 2015-2018 2058 2513 2599-2603 2724-2726 2814-2815 2923-2924 2975-2977 3374-3376 3414-3417 3433 3481-3482 3518-3520 3624 3789-3794 3916-3925 3949-3953 4515-4516 4555-4556 4562-4568 4581-4582 4785-4789 4854-4862 5190-5191 5572-5573 5580-5586 5768-5772 5802 5899-5902 5980-5984 6403-6404 6851 7209-7212 7447-7449 7534-7535 7604-7605 7615-7617 7630-7636 7695-7696 7745-7746 7757-7759 7771 7806-7808 7821 8113-8114 8137-8141 8347-8348 8351-8360 8368-8369 8466-8476 8497-8499 8607-8609 8612-8616 8723-8732 8762-8766 8995-8996 9007-9008 9013-9017 9040-9042 9267-9268 9287-9290 9306-9311 9482-9485 9522-9525 9531 9735-9742 9826 10253-10261 10277 10490-10493 10516-10518 10899-10900 10907-10910 11135 11339-11344 11399-11402 11416-11418 11431-11432 11465-11466 11561-11562 11568-11571 11711-11712 11731-11734 11739-11740 11780-11782 11835-11836 11873-11875 12150-12151 12171-12172 12194-12196 12361 12432-12433 12470-12471 12545-12546 12601-12602 12640 12642-12644 12755-12759 12939-12943 12997-12999 13077-13079 13556-13559 13592-13595 13629-13631 13638-13641 13873-13875 13885-13887 14058-14059 14261-14263 14274-14276 14283-14288 14694-14701 14784 14818-14820 15070 15100-15109 15182-15183 15257 15302-15303 15326-15328 15439-15442 15545-15546 15588-15589 15600-15601 15658-15660 15869-15870 16190 16345-16349 16545 16558-16562 16642 16652 16836-16842 16851-16853 17242 17286-17291 17330-17332 17335-17339 17454-17464 17958-17962 18015-18016 18029-18030 18061 18069-18072 18230-18239 18500-18501 18625-18626 18644-18650 18655-18658 18673-18677 18771-18772 18778-18780 18789 18796 18894-18896 18925-18933 18964-18969 18975 18989-18990 19045-19048 19096-19101 19207-19208 19223 19251-19252 19266-19267 19273 19316-19317 19351-19354 19362-19364 19370 19372-19374 19387-19389 19395-19400 19407-19411 19422-19434 19442-19444 19515-19521 19564-19566 19670-19671 19736-19742 19804-19808 19813-19815 19819-19822 19921-19923 19933-19938 19953-19957 19972-19980 20099-20103 20130 20161-20164 20189-20194 20226-20228 20231-20234 20257-20270 20286-20287 20289 20328-20330 20360 20415-20417 20432-20440 20447-20451 20456-20468 20537-20545 20554-20557 20563-20567 20625-20628 20631-20634 20676-20680 20686-20687 20733-20734 20747-20751 20767 20824-20826 20836-20843 20858-20862 20865 20927-20928 20957-20962 20991 21015 21062-21066 21076-21087 21122 21157-21169 21181-21193 21211-21215 21225-21226 21272-21274 21277-21280 21297-21303 21463-21465 21780-21787 21911-21912 21958-21961 21978 22003-22006 22020-22025 22040-22041 22048-22049 22062-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22073 22080-22083 22092-22094 22120-22127 22141-22143 22169-22170 22208-22211 22225-22226 22250-22265-22270 22277-22289 22314-22317 22323-22328 22349-22350 22358-22359 22362-22364 22661-22664 22669-22670 22698-22701 22726-22727 22852-22853 22870-22874 22969-22970 22978-22979 23046-23050 23066-23067 23070 23098-23101 23218-23219 23229-23233 23236 23252-23256 23358-23360 23379-23385 23448-23450 23508-23509 23704 23726-23730 23760-23761 23764 23770 23798-23799 23802-23805 23845-23848 23890-23902 23959 23990-23992 23999-24001 24313-24314 25085-25090 25336-25337 25340-25341 25374-25375 25416-25417 25680-25686 25986-26016 26024-26028 26266 26310-26314 26327 26337 26409-26410 26421-26422 26607-26609 26684 26705-26707 26755-26756 26860-26862 26873-26878 27150-27151 27261-27265 27269-27270 27729-27739 27750-27756 27825-27826 27861-27864 27890-27892 27989-27990 28099-28100 28186 28315-28316 28365-28370 28407-28415 28424 28426-28428 28450-28453 28464 28617-28627 28787-28789 29096-29101 29304-29308 29328-29331 29354-29357 29508-29518 29663-29672 29926-29935 29960-29961 30141-30142 30218-30220
adrenal gland	Clontech	ADR002	48-49 51-52 329-330 332 546-547 635 652 656 694-695 864-867 901-904 1005 1058 1158-1161 1273-1279 1453-1454 1516-1519 1551 1608-1610 1651-1652 1654-1656 1661-1675 1705-1714 1914 1990 2015-2018 2058 2306 2383-2388 2393-2395 2417-2422 2517-2518 2540-2541 2599-2603 2675-2678 2695-2698 2911-2912 2923-2926 2951-2955 2983-2986 3000 3004 3107-3108 3322-3323 3365 3441-3442 3605-3607 3649-3653 3693 3781-3784 3871-3872 3939-3941 4053-4054 4156-4157 4165-4170 4413-4414 4515-4516 4542 4550-4551 4581-4582 5057-5059 5109-5115 5285-5287 5376-5378 5480-5482 5538-5540 5695-5698 5766-5767 5802 5946 6011-6021 6081-6082 6166-6168 6223-6225 6299-6300 6339-6340 6403-6404 6454-6458 6852 6857-6858 7209-7212 7228-7237 7258-7263 7407-7414 7461-7464 7536-7541 7611-7612 7630-7636 7657-7659 7681-7687 7693-7694 7745-7746 7757-7759 7794 7806-7808 7823 7890 7957 7984-7985 7990-7992 8020 8025-8026 8069-8070 8079 8145-8156 8233 8301-8309 8370-8374 8430-8433 8461-8464 8504-8505 8539-8542 8607-8609 8688 8736-8737 8758-8759 8762-8766 8982-8983 9002-9004 9072-9074 9456-9458 9460 9472-9474 9526-9530 9535-9537 9617-9626 9675 9733-9738 9743-9744 9770-9771 9780-9781 9794-9795 9828 9851-9853 9923-9924 9945 9965-9968 9984-9985 10015-10016 10263-10264 10273-10274 10277 10279-10280 10311 10320-10323 10513-10515 10531-10532 10543-10549 10592-10594 10603-10606 10627 10640-10644 10780-10782 10870-10872 10881-10883 10891-10893 10906 10913-10914 11081 11297-11299 11405-11407 11465-11466 11546 11582-11583 11612-11639 11669-11671 11809 11901-11907 11918-11920 12194-12196 12202-12205 12237-12238 12256-12257 12259-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			12262 12455-12459 12470-12471 12486-12540 12545- 12561 12590-12592 12601-12602 12723 12785-12787 12943 12968-12969 12997-12999 13077-13079 13581- 13583 13592-13595 13638-13641 13665 13676 13931- 13933 14170-14172 14257-14263 14304-14305 14360- 14369 14456-14458 14604 14661-14662 14684-14685 14789-14791 15025-15069 15098-15099 15218-15219 15243-15248 15250-15251 15258-15259 15290-15291 15329-15331 15392-15396 15406-15407 15412-15414 15526-15527 15536-15537 15578-15580 15688-15694 15906-15907 15961-15963 15988-15990 16118-16120 16174-16176 16226-16227 16350-16351 16365-16366 16461-16464 16508-16511 16600 16623 16636-16637 16643-16648 16749-16753 16851-16853 16894-16896 16911-16912 16933-16937 17042-17057 17067-17069 17255-17256 17264-17267 17292-17296 17372-17374 17441-17450 17454 17569-17570 17583-17584 17958- 17962 18005-18006 18029-18030 18065 18412-18418 18421-18425 18500-18501 18577-18578 18587-18616 18619-18620 18644-18650 18691-18692 18723-18726 18738-18758 18762-18766 18789 18796 18836-18838 18856 18899-18903 18910 18934-18935 18975 18983- 18985 18989-18990 19001-19004 19062-19065 19071- 19080 19211-19212 19228-19229 19257 19271-19272 19350-19354 19363-19364 19370 19401-19402 19407- 19411 19415-19417 19422-19431 19487 19514 19560- 19565 19604-19607 19620-19622 19656-19657 19659- 19661 19667-19668 19683-19687 19693 19698 19700- 19708 19727-19732 19759-19763 19800-19808 19814- 19815 19855-19856 19915-19920 19933-19937 19943- 19946 19965-19967 19972-19980 20029-20043 20072- 20073 20106-20110 20146-20150 20161-20164 20167- 20171 20189-20197 20208-20214 20219-20221 20235- 20240 20243 20250-20252 20265-20273 20305-20307 20321-20324 20328-20330 20361 20366-20368 20401- 20405 20415-20417 20437-20440 20485-20490 20505- 20510 20514-20523 20547-20553 20569-20574 20607- 20612 20676-20680 20710-20711 20727-20732 20758- 20766 20788-20791 20819-20821 20836-20849 20855- 20857 20866-20867 20926 20938-20942 20948-20949 20963-20972 21005-21008 21072-21087 21141-21142 21157-21169 21171-21174 21208-21210 21241-21247 21377-21397 21410-21414 21451-21453 21480-21482 21485-21494 21647-21655 21881-21885 21899-21902 21958-21961 21973-21974 21983-21987 22007-22015 22026-22029 22035-22036 22070-22073 22115-22119 22128-22134 22141-22143 22152-22156 22169-22170 22187-22192 22195-22198 22204-22207 22218-22224 22261-22276 22284-22289 22292-22299 22303-22308 22312-22313 22318 22358-22359 22365-22371 22373 22375-22376 22409-22410 22433-22435 22455-22465 22495 22561-22568 22625-22628 22671-22674 22690 22696-22697 22700-22701 22737-22739 22760-22762 22810-22816 22823-22827 22857-22858 22887-22891 22954 23046 23051-23052 23071 23252-23256 23329-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			23337 23356-23357 23439-23447 23488 23499-23505 23599 23704 23731-23736 23827-23833 23845-23848 23871-23875 23878-23880 23882 23890-23902 24014- 24018 24021-24024 24056 24130-24144 24194-24196 24446-24448 25085-25090 25289-25290 25293-25297 25323-25325 25705-25715 26024-26028 26033-26049 26237-26239 26252 26258-26259 26361-26365 26383- 26385 26428-26429 26431 26469-26470 26479-26545 26559-26560 26563-26566 26596-26601 26665-26666 26676-26677 26746 26748-26754 26804-26805 26853- 26854 27158-27163 27209-27213 27379-27380 27383 27401-27410 27441-27445 27520-27521 27544-27545 27600-27601 27649-27654 27697 27812-27813 27825- 27826 27890-27892 27929 28050-28059 28095-28096 28424 28446-28448 28458-28460 29328-29331 29343- 29345 29940-29949 29954-29955 30135-30140 30150- 30156 30189-30194
adult heart	GIBCO	AHR001	30 42-44 51-52 124-125 156 180-181 192 197-200 202- 203 221 227-230 260 294-301 315-316 324-325 329-330 332-335 373-374 395-397 408-411 414-421 425-427 505 515-517 529 576-578 605-606 660 685-688 716-722 738- 740 825 845-846 849-851 891 895-898 901-904 914 919- 931 934-936 1001-1003 1005 1028 1047 1071 1092-1094 1097-1098 1158-1161 1185-1187 1235-1237 1240-1241 1243-1245 1249-1262 1280-1282 1302-1303 1306 1312- 1313 1418-1419 1424-1429 1431 1453-1454 1467-1470 1474 1476-1477 1483 1488-1489 1569-1570 1608-1610 1618 1626 1667-1668 1692-1693 1792-1794 1828 1866- 1872 1905-1907 1912-1913 1925-1927 1943 1961-1962 1986-1987 1990-1992 2036 2222-2226 2272-2276 2341- 2343 2393-2395 2404-2406 2440-2444 2471-2474 2565- 2566 2570-2574 2599-2603 2625 2675-2678 2692-2694 2706 2861 2864 2867-2868 2912 2923-2924 2926 2975- 2977 2988-2989 2993 3001 3006-3008 3090 3126-3127 3151-3154 3161-3163 3205-3207 3223-3225 3228 3276- 3277 3281-3287 3326-3331 3374-3377 3392-3396 3433 3435-3442 3452-3454 3507 3531-3534 3620-3621 3661- 3663 3693 3729-3730 3770-3772 3789-3794 3834-3835 3930 3939-3941 3949-3953 4067-4072 4091-4096 4124- 4126 4141-4143 4338-4341 4354-4355 4420-4421 4469- 4470 4515-4516 4525 4531-4533 4555-4556 4562-4573 4579 4581-4582 4600-4601 4623-4643 4651 4663-4665 4675-4680 4698-4699 4785-4789 4825-4826 4833-4836 4857-4861 4971-4974 4989-4991 5057-5059 5074-5081 5084-5085 5138 5246 5253-5266 5335-5336 5362-5363 5474-5477 5519-5521 5530-5531 5557-5560 5567-5568 5580-5583 5700 5743-5747 5754-5757 5802 5805-5807 5827-5828 5875-5879 5919-5921 5939-5941 5965-5966 5973-5975 5977-5978 5980-5984 6084 6135-6136 6166- 6168 6209-6211 6284 6389-6392 6400 6403-6404 6450- 6451 6523-6526 6551-6567 6622 6674-6675 6773-6778 7209-7212 7236-7240 7256-7263 7283-7284 7481 7536- 7541 7557-7559 7580-7597 7611-7612 7615-7617 7620- 7621 7630-7636 7671-7673 7678-7689 7695-7696 7701- 7703 7726-7727 7729-7741 7745-7746 7757-7759 7778-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			7783 7787-7794 7798-7801 7806-7808 7815-7818 7822 7890 7906-7912 7921-7925 7972-7975 7977-7983 7994 7999-8001 8008-8009 8013-8016 8020 8069-8070 8077- 8079 8084-8085 8090-8093 8098-8100 8107-8108 8112- 8114 8117-8121 8137-8141 8145-8151 8187-8200 8247- 8248 8250 8297-8300 8310 8342-8360 8368-8369 8409- 8414 8434-8452 8466-8476 8497-8499 8512-8513 8539- 8542 8612-8616 8688 8698-8700 8751-8753 8758-8759 8762-8766 8768-8779 8919-8933 8978-8981 9013-9017 9031-9036 9040-9045 9049-9067 9196-9200 9306-9311 9321-9323 9331-9333 9391-9392 9395-9396 9427-9428 9443 9472-9476 9478-9481 9487-9488 9491-9493 9506- 9509 9517-9518 9529-9531 9535-9537 9581-9584 9593 9603-9604 9617-9626 9659 9726-9727 9729-9731 9735- 9744 9794-9795 9799-9800 9803-9807 9826 9828-9832 9851-9852 9857-9861 9874-9895 9916-9920 9923-9924 9969-9980 9984-9985 9997-10009 10012 10017-10019 10025-10026 10033-10040 10161-10163 10167-10172 10262 10268-10274 10277 10306 10326-10328 10451- 10453 10470-10473 10484-10489 10491-10493 10498- 10503 10519 10537-10538 10551-10554 10592-10594 10600-10606 10612-10614 10628-10630 10870-10875 10877-10878 10881-10883 10894 10901-10902 10913- 10914 10931-10933 10976-10978 11021 11066-11068 11123-11124 11202-11207 11291-11299 11308-11310 11314-11315 11321 11326-11327 11345-11350 11372- 11396 11468-11474 11476-11478 11495 11515-11517 11538-11540 11546 11565-11567 11579-11581 11609 11644-11648 11658-11659 11711-11712 11714-11720 11731-11734 11745-11748 11780-11782 11803-11804 11809 11835-11837 11901-11905 11921-11930 11941- 11944 11951 11977-11978 12023-12041 12050-12056 12117-12118 12131-12132 12135-12137 12140 12150- 12151 12173 12192-12196 12202-12208 12256-12258 12361 12374-12401 12455-12459 12470-12471 12475- 12476 12555-12559 12573-12574 12590-12596 12637 12642-12644 12655-12658 12668-12669 12723 12725- 12727 12755-12759 12785-12787 12796-12798 12805- 12806 12872-12881 12970-12972 12978-12981 12997- 12999 13077-13079 13545-13548 13563-13564 13567- 13568 13576-13579 13592-13597 13652-13659 13674- 13675 13873-13875 13898 13916-13919 13954-13956 14023-14026 14036-14037 14044-14045 14048-14053 14058-14060 14129 14137-14138 14166-14168 14192- 14195 14209-14215 14236-14238 14264-14265 14283- 14288 14304-14305 14355-14356 14360-14369 14498- 14501 14604 14640-14644 14650-14651 14684-14685 14702-14704 14709-14717 14846-14847 14991-14992 15013-15024 15172-15173 15182-15183 15190-15191 15218-15219 15243-15251 15253-15255 15257-15259 15283-15286 15290-15291 15298-15299 15323-15324 15336-15340 15344 15399 15412-15414 15530-15531 15568-15572 15576-15577 15588-15589 15614-15616 15631-15632 15699-15700 15766-15771 15855-15857 15863-15870 15881-15885 15925-15931 15988-15990

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			16075-16079 16110-16112 16137 16141-16143 16226- 16227 16350-16351 16365-16366 16403-16407 16465- 16466 16473-16481 16496-16497 16508-16511 16520- 16529 16536-16539 16600 16602-16611 16619-16621 16623-16625 16636-16637 16642 16652 16700-16701 16704-16705 16716-16723 16836-16842 16875-16877 16894-16896 16911-16912 16934-16939 16949-16953 17036-17041 17105-17106 17116-17118 17124-17126 17131-17132 17232 17242 17292-17296 17330-17332 17335-17339 17451-17456 17571-17574 17857-17861 17958-17962 18001-18003 18015-18016 18029-18030 18136-18138 18400-18402 18405-18406 18421-18425 18490-18491 18495-18501 18533-18537 18583-18584 18625-18626 18629-18632 18644-18658 18668-18670 18673-18677 18689-18693 18717-18726 18729-18732 18745-18749 18759-18761 18771-18783 18789-18793 18796 18802-18804 18806-18807 18811-18813 18822- 18834 18839-18845 18856-18880 18882-18888 18897- 18903 18915-18921 18923-18939 18941-18942 18944- 18950 18955-18959 18964-18969 18975-18977 18993- 18995 19005-19009 19013-19018 19029-19039 19049- 19053 19055 19057-19058 19062-19083 19090 19096- 19101 19134 19153 19207-19210 19213-19220 19226- 19227 19251-19252 19254-19255 19260-19262 19266- 19267 19295-19296 19306-19307 19316-19317 19345- 19364 19370 19373-19374 19380-19400 19407-19411 19415-19417 19422-19434 19438-19444 19454-19455 19462-19463 19467-19486 19503 19526-19529 19536 19560-19562 19564-19566 19586 19604-19607 19656- 19657 19663-19668 19672-19673 19688 19693 19727- 19748 19759-19767 19772-19808 19814-19815 19819- 19822 19921-19929 19933-19939 19943-19946 19965- 19967 19972-19980 20029-20043 20048-20063 20069- 20071 20087-20094 20106-20110 20114-20120 20130 20133-20148 20151-20154 20161-20164 20167-20171 20182-20197 20208-20214 20235-20241 20244-20253 20257-20262 20265-20270 20274-20278 20281-20282 20289 20299 20305-20307 20316 20321-20324 20336- 20341 20345-20354 20393-20405 20411 20414-20417 20425-20431 20437-20474 20476-20479 20485-20494 20505-20509 20514-20535 20554-20557 20559-20578 20614-20619 20625-20630 20646-20648 20676-20681 20683-20685 20698-20707 20710-20713 20718-20725 20727-20734 20747-20751 20767 20788 20792-20797 20806-20812 20836-20849 20863 20865 20871 20879- 20880 20897-20900 20926 20929-20932 20938-20942 20948-20949 20951 20963-20972 20977-20988 20999- 21004 21015-21020 21027-21045 21060-21066 21072- 21075 21101-21104 21123-21127 21137-21142 21145- 21151 21157-21169 21171-21174 21181-21193 21202- 21207 21227-21228 21233-21235 21237-21266 21277- 21294 21301-21303 21351-21352 21377-21397 21408- 21409 21434-21439 21446-21453 21463-21465 21467- 21469 21480-21482 21485-21491 21529-21530 21587- 21655 21881-21885 21892-21894 21925-21935 21955-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			21968 21971-21974 21978-21987 21995-21999 22003- 22015 22019-22025 22030-22034 22040-22044 22047 22050-22055 22060-22061 22070-22076 22098-22107 22120-22127 22135-22138 22141-22143 22152-22156 22160 22165-22175 22187-22192 22195-22198 22208- 22211 22218-22226 22246-22249 22251-22252 22261- 22276 22284-22289 22300-22302 22310-22318 22323- 22328 22343-22350 22352-22356 22358-22359 22365 22373 22383-22388 22409-22410 22495 22553-22559 22571-22581 22607-22609 22625-22628 22634-22636 22644-22651 22653-22654 22665-22667 22690 22700- 22701 22730-22731 22760-22762 22768-22770 22805- 22816 22821-22822 22843-22845 22857-22858 22881- 22891 22899-22900 22911 22923-22924 22941-22950 22952-22954 22969-22970 22973 22977 22980-22989 22991-22994 22998 23046-23055 23059-23060 23063- 23067 23070-23071 23094-23111 23138-23140 23201- 23202 23206-23209 23212-23215 23220-23221 23229- 23233 23235-23236 23251-23256 23279-23281 23356- 23360 23373-23377 23379-23385 23399 23415-23421 23433 23473-23474 23486-23487 23489-23490 23492- 23493 23495-23496 23506-23513 23519-23520 23543- 23544 23555-23565 23599 23673-23674 23691 23704 23726-23736 23760-23763 23771-23780 23798-23799 23802-23805 23827-23833 23836-23837 23849-23852 23878-23880 23890-23892 23959 23990-23992 24014- 24018 24021-24025 24056 25213-25219 25279-25290 25307-25308 25313 25331-25335 25340-25343 25347- 25354 25383-25401 25403-25407 25534-25536 26024- 26028 26195-26199 26205-26208 26237-26239 26248- 26252 26258-26261 26266-26267 26273-26280 26285- 26290 26305-26306 26327-26328 26337 26361-26365 26369 26373-26374 26389-26393 26395 26411 26423 26460-26463 26469-26470 26479-26545 26563-26566 26603 26665-26666 26681-26683 26698-26699 26737 26748-26754 26788-26789 26804-26805 26832 26843- 26845 26850-26857 26860-26862 26876-26879 26882- 26884 26980-26984 26988 27037-27038 27040-27043 27052 27067-27070 27080-27090 27092 27129-27132 27150-27151 27154-27155 27173-27174 27193-27200 27209-27213 27229-27232 27247-27251 27269-27270 27275-27276 27283-27287 27304-27305 27343 27348- 27353 27379-27380 27438 27501-27507 27510-27511 27544-27545 27551-27554 27560-27564 27600-27601 27636-27639 27649-27654 27662-27672 27700-27701 27729-27739 27750-27754 27807-27808 27821-27822 27861-27864 27896-27927 27986 27989-27990 28001- 28003 28012-28017 28095-28096 28099-28100 28108- 28121 28142-28145 28160 28186 28286 28290-28292 28311-28313 28315-28316 28324-28345 28361-28362 28421-28424 28426-28428 29265-29267 29278-29283 29328-29337 29339-29340 29343-29345 29354-29357 29508-29518 29594-29604 29718-29721 29919-29922 29940-29953 29960-29961 30141-30142 30150-30156 30184-30199 30218-30220 30233-30235 30243-30252

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			30361-30368
adult kidney	GIBCO	AKD001	16 30 42-44 48-49 156 164 167 170-171 180-181 197-200 202-203 255-256 260 282-284 302-318 329-330 332-335 339 358-359 373-375 395 398-399 412-413 419-420 422- 429 458 461-467 470-471 505 515-517 524-525 530-531 619-620 635 661 664 694-695 706-707 716-722 779-782 785-786 832-836 847-848 852-855 880-882 913 934-935 938 981-985 1001-1003 1005 1028 1044-1045 1047 1071 1092-1094 1097-1098 1123-1127 1169-1179 1203-1204 1240-1241 1280-1282 1295-1297 1302-1303 1307 1312- 1313 1346-1347 1414-1417 1431 1449-1450 1452-1454 1456-1460 1467-1470 1483 1488-1489 1499 1569-1570 1578-1585 1620 1626 1705-1714 1721-1722 1792-1794 1912-1913 1915-1916 1918-1919 1925-1927 1947-1948 1980-1982 1986-1987 1990 2015-2018 2031-2032 2058 2231-2232 2275-2276 2299 2383-2388 2404-2406 2423- 2424 2471-2474 2570-2574 2599-2603 2649-2650 2695- 2698 2802 2808-2811 2820-2821 2871-2876 2883-2887 2923-2924 2926 2934-2935 2967 2975-2977 2988-2989 3001 3006-3008 3020 3039 3078-3079 3090 3112 3151- 3154 3205-3207 3228 3255-3259 3271 3274-3277 3326- 3331 3352 3365 3374-3377 3418-3422 3433 3466 3507 3515-3517 3525 3606 3624 3671-3672 3686 3693 3708 3729-3730 3768-3769 3789-3794 3809 3827-3828 3840- 3852 3949-3953 4091-4095 4124-4126 4213-4214 4220 4336 4342-4346 4413-4414 4424-4430 4441-4443 4469- 4470 4515-4516 4531-4533 4542 4555-4556 4562-4568 4581-4582 4612-4614 4640-4643 4785-4789 4857-4861 4868-4869 4971-4974 5092-5094 5109-5115 5192 5269- 5271 5311-5325 5335-5341 5370 5512-5521 5532-5533 5538-5560 5569-5573 5641-5649 5695-5698 5700 5802- 5807 5820-5822 5827-5828 5854-5855 5899-5902 5919- 5921 5930-5936 5939-5941 5943-5945 5956-5957 5973- 5975 5977-5978 5980-5984 6040-6042 6135-6136 6170 6209-6211 6235-6237 6300 6376 6378 6403-6405 6450- 6453 6503-6510 6533-6535 6542-6543 6585-6592 6624 6883 7209-7212 7214-7219 7258-7266 7275-7276 7299- 7301 7447-7449 7576-7577 7604-7605 7609 7611-7612 7615-7621 7630-7636 7640-7642 7657-7659 7671-7687 7693-7696 7701-7703 7726-7728 7737-7743 7745-7746 7778-7786 7789-7804 7806-7808 7812-7818 7821 7891- 7895 7898-7900 7906-7912 7921-7925 7972-7975 7978- 7983 7990-7994 8002 8010-8012 8059-8063 8070 8074- 8076 8079 8107-8108 8113-8114 8132-8136 8145-8156 8163-8173 8187-8200 8216-8218 8227-8229 8234 8247- 8248 8250 8253-8257 8263-8265 8297-8300 8310 8342 8349-8364 8368-8369 8404-8406 8409-8415 8420-8421 8449-8452 8461-8464 8487-8488 8497-8499 8502-8505 8507-8508 8512-8515 8537-8550 8554-8555 8601-8603 8607-8609 8612-8616 8688-8690 8751-8753 8758-8759 8768-8770 8919-8933 8986-8994 9002-9004 9029-9036 9043-9045 9072-9074 9084-9085 9267-9268 9306-9311 9321-9323 9337-9338 9343-9346 9366-9371 9391-9392 9395-9396 9415-9419 9443-9444 9456-9458 9460 9472- 9476 9478 9482-9488 9506-9518 9522-9525 9531-9534

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9581-9583 9585 9594-9602 9617-9626 9659 9664-9665 9676 9682-9683 9688 9729-9731 9757-9767 9770-9771 9786-9790 9794-9795 9799-9800 9826 9828-9834 9848- 9852 9854-9855 9857-9861 9874-9895 9902-9908 9921- 9924 9927-9928 9954-9955 9965-9988 9997-10009 10012 10025-10026 10033-10037 10161-10172 10265- 10277 10279-10280 10306 10326-10328 10449-10453 10480-10482 10484-10487 10498-10503 10506-10507 10513-10519 10531-10532 10543-10549 10588-10601 10603-10606 10612-10623 10638-10644 10820-10821 10870-10876 10881-10883 10907-10910 10913-10914 10931-10933 10938 11010 11024-11025 11069-11070 11123-11124 11158 11217-11219 11230-11249 11289- 11290 11295-11296 11300-11307 11317 11326-11327 11339-11350 11406-11407 11423-11426 11431-11432 11476-11478 11493-11495 11544-11546 11553 11582- 11583 11586-11602 11607-11609 11612-11639 11644- 11648 11658-11661 11711-11712 11715-11716 11718- 11720 11731-11734 11739-11740 11745-11748 11775- 11776 11803-11808 11835-11836 11840 11842 11937- 11938 12040-12041 12127-12130 12140 12149-12151 12175-12176 12186-12189 12202-12208 12256-12262 12374-12377 12470-12471 12477 12486-12518 12545- 12546 12555-12561 12565-12568 12601-12602 12615- 12618 12637 12642-12644 12653-12658 12666-12667 12676-12678 12714-12715 12720-12723 12725-12727 12755-12762 12774-12775 12782-12787 12872-12881 12963-12964 12997-12999 13077-13079 13556-13562 13592-13595 13603-13612 13638-13641 13668-13672 13873-13875 13898 13918-13921 13930 13934-13936 13954-13956 13999-14004 14023-14026 14044-14045 14058-14059 14166-14168 14170-14172 14186 14192- 14195 14236-14238 14264-14267 14314-14317 14344- 14345 14355-14356 14459-14462 14604 14607-14609 14626 14640-14642 14650-14651 14661-14662 14681- 14682 14684-14685 14705-14706 14714-14717 14723- 14724 14784 14789-14791 14809 15013-15018 15093- 15096 15182-15183 15187-15191 15218-15219 15243- 15248 15250-15251 15257-15259 15290-15291 15336- 15340 15412-15414 15457-15459 15530-15531 15545- 15546 15576-15577 15588-15589 15623-15626 15699- 15700 15867-15868 15880-15885 15890-15895 15988- 15990 16006-16015 16044-16046 16053-16058 16115- 16117 16121-16122 16130-16132 16141-16143 16152- 16153 16168-16171 16174-16176 16233-16235 16238 16315 16360-16361 16364-16366 16368-16372 16408- 16409 16434-16437 16461-16464 16470-16478 16527- 16529 16545 16558-16562 16583-16585 16602-16611 16623 16636-16637 16642 16652-16655 16668-16674 16683-16693 16700-16703 16716-16723 16800-16801 16823-16826 16828-16831 16836-16842 16851-16853 16878-16881 16894-16896 16913-16915 16934-16939 17010-17014 17026-17028 17036-17037 17114 17131- 17132 17145-17146 17153-17154 17156-17159 17238- 17241 17244-17248 17251-17254 17297-17306 17330-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			17332 17335-17339 17356-17358 17404-17408 17454 17922-17923 17951-17952 17958-17963 18008-18009 18015-18016 18029-18030 18069-18072 18400-18402 18411-18418 18421-18425 18500-18501 18516-18518 18527 18533-18534 18536-18537 18577-18578 18585- 18617 18624-18626 18629-18637 18644-18650 18655- 18661 18668-18681 18689-18693 18717-18726 18730- 18732 18738-18756 18759-18769 18771-18772 18778- 18783 18787-18793 18796 18802-18804 18806-18807 18811-18813 18822-18834 18836-18838 18854 18856- 18880 18882-18888 18894-18896 18899-18903 18919- 18921 18923-18939 18947-18950 18964-18969 18975 18989-18990 18996 19000 19005-19009 19012-19018 19025-19028 19045-19048 19054 19057-19058 19062- 19065 19071-19085 19096-19101 19106-19118 19134 19138-19140 19142-19147 19153 19163-19201 19207- 19220 19226-19227 19253-19255 19257 19260-19262 19273 19306-19309 19316-19317 19345-19354 19361- 19364 19368-19370 19372-19374 19385-19402 19407- 19411 19415-19417 19422-19434 19441-19444 19458- 19461 19494-19496 19503 19512-19513 19515-19521 19526-19531 19560-19562 19566-19578 19580-19582 19586 19617-19619 19627 19656-19657 19667-19668 19674-19678 19693 19698 19706-19710 19727-19732 19736-19751 19759-19763 19772 19800-19808 19813- 19815 19915-19918 19921-19929 19933-19946 19953- 19957 19962-19963 19965-19967 19972-19981 20015- 20017 20026-20027 20029-20043 20048-20052 20069- 20071 20074-20079 20087-20102 20106-20112 20114- 20120 20122-20127 20130 20133-20150 20161-20164 20167-20194 20198-20207 20215-20218 20229-20241 20244-20253 20257-20262 20265-20270 20274-20278 20289-20296 20299-20304 20317-20324 20328-20330 20343-20348 20366-20368 20401-20405 20415-20420 20425-20455 20469-20471 20482-20490 20501 20510- 20535 20537-20545 20548-20557 20559-20578 20614- 20619 20625-20630 20635-20636 20642-20665 20681 20688 20698-20707 20710-20726 20733-20738 20747- 20753 20758-20767 20788-20797 20806-20812 20816- 20818 20824-20849 20855-20867 20871 20879-20884 20897-20900 20922-20928 20933-20935 20938-20943 20952-20954 20963-20972 20977-20984 20999-21008 21021-21023 21060-21066 21069-21100 21123-21127 21137-21142 21145-21151 21171-21174 21176-21180 21194-21198 21208-21210 21233-21235 21237-21240 21248-21252 21256-21266 21272-21294 21297-21298 21326-21334 21351-21355 21377-21397 21405 21428- 21453 21458-21461 21463-21465 21467-21469 21480- 21482 21485-21491 21495-21500 21529-21530 21532- 21533 21554-21556 21587-21655 21729-21733 21744- 21747 21877-21885 21892-21894 21911-21912 21915- 21921 21924 21929-21935 21939 21948-21950 21955- 21968 21973-21974 21978-21988 22000-22015 22019- 22025 22030-22034 22042-22044 22047 22056-22076 22080-22086 22101-22107 22115-22116 22135-22138

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22141-22143 22160 22165-22170 22187-22192 22195- 22198-22208-22211 22218-22226 22231-22235 22243- 22250 22253-22255 22261-22264 22271-22289 22300- 22302 22312-22318 22323-22328 22333-22335 22343- 22350 22358-22359 22365-22371 22373 22377-22380 22383-22392 22399-22408 22434-22435 22440-22448 22455-22465 22495 22531-22533 22551-22558 22560 22571-22581 22599-22602 22607-22609 22622-22628 22634-22643 22653-22654 22661-22667 22671-22674 22690 22700-22701 22726-22727 22730-22731 22760- 22762 22768-22770 22775-22776 22781-22782 22794- 22796 22805-22816 22821-22822 22828-22829 22838- 22849 22852-22853 22857-22858 22899-22900 22925- 22938 22948-22950 22952-22953 22955-22957 22973- 22977 22991-22994 22999-23021 23026-23028 23046- 23052 23059-23060 23063-23067 23070-23071 23098- 23101 23117-23119 23138-23141 23201-23202 23206- 23209 23212-23215 23218-23222 23236 23240-23244 23247 23249 23251 23261-23262 23328-23337 23343- 23344 23356-23360 23373-23374 23382-23390 23396- 23399 23415-23421 23425-23427 23433-23437 23439- 23450 23470-23474 23486-23487 23489-23490 23492- 23493 23495-23496 23508-23513 23543-23544 23555- 23565 23718-23719 23726-23736 23761-23763 23771- 23780 23793-23799 23802-23809 23816-23819 23827- 23833 23839-23842 23845-23852 23871-23875 23890- 23902 23911-23940 23959 23999-24001 24014-24018 24021-24024 24056 24120-24129 24665 24772-24774 25289-25290 25306 25314 25319-25321 25331-25335 25342-25343 25370-25375 25383-25401 25410-25413 25416-25417 25534-25536 25966-25968 26024-26028 26196-26199 26205-26206 26237-26243 26252 26261 26266 26270-26272 26305-26309 26316-26321 26327 26337 26341-26344 26358 26361-26365 26373-26374 26389-26393 26411 26423 26448-26451 26460-26463 26469-26470 26559-26560 26596-26601 26678-26680 26698-26699 26737 26755-26756 26806 26828 26831 26842-26843 26846-26849 26853-26857 26860-26862 26873-26879 26980-26984 27012-27014 27028-27029 27035 27044-27047 27050-27057 27091 27142-27146 27156-27157 27173-27174 27184-27187 27193-27205 27218 27247-27251 27269-27270 27275-27276 27283- 27287 27299-27305 27323-27325 27331-27333 27441- 27444 27446-27449 27498-27507 27510-27511 27544- 27545 27562-27563 27570-27571 27574-27577 27588 27593-27594 27600-27615 27636-27639 27649-27654 27662-27672 27698-27701 27726-27743 27750-27756 27814-27818 27821-27822 27825-27826 27861-27868 27896-27928 27943-27947 27989-27990 28008-28011 28050-28059 28097-28100 28105-28122 28142-28145 28186 28204-28209 28263-28268 28272-28276 28286 28290-28292 28311-28313 28361-28364 28424 28426- 28428 28446-28448 29265-29267 29278-29283 29328- 29331 29339-29340 29354-29357 29371-29375 29432- 29435 29451-29452 29746-29761 29940-29955 29958-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			29961 30085-30087 30141-30142 30150-30156 30195-30199 30218-30220 30224-30232 30361-30368
adult kidney	Invitrogen	AKT002	136-138 255-256 333-335 414-418 543-545 553-554 576-578 665-666 716-717 847-848 913 919-922 981-985 1034 1071 1086-1087 1097-1098 1123-1127 1158-1161 1298 1312-1313 1346-1347 1461-1463 1569-1570 1692-1693 1980-1982 2015-2018 2209-2210 2255-2256 2471-2474 2540-2541 2675-2678 3006-3008 3271 3276-3277 3374-3377 3435-3440 3452-3453 3507 3789-3794 3834-3835 3840-3854 3949-3953 4122-4123 4160-4162 4486-4487 4515-4516 4562-4568 4660-4662 4785-4789 4795-4809 4971-4974 5149-5150 5331-5332 5510 5700 5932-5936 5980-5984 6140-6143 6166-6168 6235-6237 6335-6336 6403-6404 6533-6535 6570-6571 6656-6661 7008-7010 7209-7212 7216-7219 7536-7541 7611-7612 7643-7647 7657-7659 7742-7743 7784-7786 7795-7797 7815-7818 7924-7925 7972-7975 7978-7983 8008-8012 8017-8019 8046 8059-8063 8079 8142-8151 8187-8200 8211-8213 8216-8218 8310 8342 8368-8369 8512-8513 8526-8535 8543-8550 8554-8555 8936-8938 8982-8983 9036 9072-9074 9337-9338 9369-9371 9391-9392 9456-9458 9475-9476 9487-9488 9558 9563-9566 9585 9594-9602 9617-9626 9735-9742 9759-9762 9828-9832 9851-9852 9916-9920 9946 9989-9992 10015-10019 10277 10449-10457 10520-10530 10588-10594 10600-10601 10603-10606 10886-10889 11010 11217-11219 11300-11301 11476-11478 11544-11545 11603-11606 11658-11659 11715-11716 11731-11734 11772-11774 11835-11836 11842 11873-11875 11937-11938 12121-12126 12131-12132 12140 12149 12186-12189 12374-12377 12545-12546 12560-12561 12578-12580 12593-12596 12598 12637 12723-12727 12796-12798 12968-12969 12984-12985 12997-12999 13585-13588 13592-13595 13627-13631 13638-13641 13665 13925-13926 13954-13956 14023-14026 14299-14301 14604 14684-14685 14721-14724 14784 15243-15248 15257 15326-15328 15545-15546 15576-15577 15588-15590 15593-15601 15623-15626 15863-15866 16075-16079 16096-16097 16345-16349 16392-16394 16545 16642 16833-16835 16934-16937 17026-17028 17238-17241 17251-17261 17335-17339 17454-17456 18411 18423-18425 18527 18533-18534 18585-18586 18625-18626 18633-18637 18671-18672 18717-18718 18730-18732 18759-18761 18771-18776 18778-18780 18790-18793 18796 18802-18804 18822-18824 18839-18841 18906-18907 18919-18921 18934-18935 18944-18945 19045-19053 19057-19061 19134 19207-19208 19254-19255 19283-19294 19351-19354 19362-19364 19368-19370 19390-19402 19407-19411 19461 19494-19496 19503 19560-19562 19567-19578 19656-19657 19667-19668 19727-19735 19814-19815 19924-19925 19938 19953-19957 20015-20017 20026-20027 20029-20043 20087-20094 20099-20102 20122-20127 20130 20146-20148 20161-20166 20182-20194 20200-20207 20241 20257-20262 20265-20270 20279-20280 20290-20296 20328-20330 20412-20413 20421-

Tissu origin	RNA Source	Library Name	SEQ ID NOS:
			20424 20432-20446 20456-20468 20472-20474 20511- 20513 20536 20542-20545 20614-20619 20676-20680 20708-20709 20712-20713 20747-20753 20827-20849 20855-20862 20901 20922-20923 20926-20928 20943 20952-20954 20999-21004 21032-21045 21060-21061 21088-21096 21145-21148 21157-21169 21194-21196 21211-21212 21229-21232 21237-21240 21267-21271 21326-21333 21377-21397 21410-21416 21446-21450 21467-21469 21495-21500 21647-21655 21729-21733 21917-21921 21962-21966 21978-21988 22007-22015 22019-22025 22062-22069 22074-22076 22092-22094 22141-22143 22160 22169-22170 22187-22192 22271- 22276 22309-22313 22318 22343-22346 22495 22553- 22558 22571-22581 22599-22602 22637-22643 22661- 22662 22730-22731 22768-22770 22838-22842 22859- 22860 22954 23047-23050 23070 23074-23076 23084 23212-23215 23258-23260 23386-23390 23419 23433 23473-23474 23543-23544 23692-23693 23726-23730 23761 23765-23767 23793-23797 23839-23840 23849- 23860 23862-23864 23890-23902 23906-23910 24035- 24040 24665 25258-25278 25410-25413 25583-25593 25966-25968 26024-26028 26205-26206 26237-26239 26266 26280 26327 26337 26361-26365 26373-26374 26557 26607-26609 26879 27035 27053-27057 27269- 27270 27299-27301 27304-27305 27544-27545 27589- 27594 27636-27639 27729-27739 27799-27802 27816- 27818 27989-27990 27992-27994 28225-28231 28424 28426-28428 28573-28578 29278-29283 29718-29721 29960-29961 30085-30087
adult lung	GIBCO	ALG001	112 156 197-200 227-230 273-278 310-314 332 373-374 419-420 459-460 505 524-525 532-533 549 576-578 635 669 692-693 716-717 845-848 891 919-922 945-946 1028 1064-1066 1071 1136-1139 1158-1161 1235-1237 1307 1411-1413 1431-1435 1705-1714 1721-1722 1792-1794 1879-1880 1986-1987 2072 2202-2203 2299 2306 2599- 2603 2886-2887 2975-2977 3195-3197 3273-3275 3281- 3282 3433 3487-3503 3550-3554 3686 3731-3732 3820- 3821 3840-3852 4489-4493 4612-4614 4720-4725 5057- 5059 5335-5336 5557-5560 5801-5804 5846 5919-5921 6170 6400 6405 6791-6794 7056-7057 7209-7212 7536- 7541 7654-7655 7660-7665 7693-7694 7742-7743 7747- 7751 7806-7808 7812-7818 7988 8079 8263-8265 8339- 8341 8349-8360 8368-8369 8430-8433 8466-8476 8497- 8499 8510-8511 8688 8917-8918 9072-9074 9306-9311 9340-9342 9408-9414 9456-9458 9531 9615-9616 9815- 9820 9835-9840 9851-9852 9874-9895 9899-9901 9989- 9992 10017-10019 10038-10040 10277 10306 10498- 10503 10520-10522 10550 10592-10594 10603-10606 10759-10764 10873-10875 10895-10898 10980-10985 11123-11124 11212-11216 11339-11344 11359-11369 11372-11396 11399-11402 11423-11426 11431-11432 11473-11474 11476-11478 11495 11578 11609 11658- 11659 11669-11671 11711-11712 11731-11734 11809 12140 12150-12151 12186-12189 12241-12244 12258 12374-12377 12470-12471 12519-12540 12555-12559

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			12565-12568 12637 12642-12644 12796-12798 12872- 12881 13563-13564 13592-13595 13885-13887 13954- 13956 14044-14045 14058-14059 14103 14170-14172 14546-14549 14650-14651 14681-14682 14784 14846- 14847 15093-15096 15182-15183 15216 15218-15219 15290-15291 15302-15303 15326-15328 15406-15411 15496-15525 15530-15531 15699-15700 15880 15988- 15990 16044-16046 16053-16058 16106 16233-16235 16418-16421 16473-16478 16508-16511 16545 16550- 16557 16570-16573 16576-16577 16636-16637 16642 16652 16661 16812-16814 16894-16896 17038-17041 17070-17071 17232 17268-17274 17330-17332 17571- 17574 17857-17861 17963 18001-18003 18015-18016 18029-18030 18136-18138 18412-18418 18421-18425 18492-18494 18500-18501 18527 18533-18534 18536- 18537 18633-18637 18691-18692 18745-18749 18757- 18758 18771-18772 18789 18796 18822-18834 18836- 18838 18856 18904-18905 18976-18977 18993-18995 19057-19058 19062-19065 19071-19073 19154-19155 19251-19255 19283-19294 19355-19360 19362-19364 19370 19373-19374 19401-19402 19415-19417 19422- 19434 19442-19444 19515-19521 19560-19562 19566 19598-19601 19693 19699-19710 19727-19742 19772 19813-19815 19819-19822 19855-19856 19943-19946 19962-19963 20029-20043 20087-20094 20146-20148 20161-20164 20167-20171 20241 20289 20317-20320 20415-20420 20437-20440 20472-20474 20476-20479 20485-20490 20501 20505-20509 20554-20557 20559- 20562 20631-20634 20649-20652 20681 20683-20685 20698-20707 20714-20717 20726 20733-20734 20752 20758-20767 20824-20843 20855-20863 20881 20897- 20900 20929-20932 20991 20999-21004 21021-21023 21072-21087 21122 21133-21135 21157-21169 21171- 21174 21233-21235 21241-21247 21256-21262 21277- 21280 21284-21294 21297-21298 21351-21352 21403- 21404 21447-21453 21492-21500 21529-21530 21554- 21556 21647-21655 21744-21747 21892-21894 21915- 21916 21971-21972 21978 21989-21993 22003-22015 22020-22025 22047 22056-22059 22070-22073 22101- 22107 22165-22170 22187-22192 22195-22198 22208- 22211 22246-22249 22277-22289 22303-22308 22312- 22313 22343-22350 22358-22359 22365 22373 22409- 22410 22455-22465 22495 22553-22558 22622-22624 22634-22636 22644-22651 22665-22667 22675-22677 22700-22701 22750-22759 22794-22796 22810-22816 22838-22842 22911 22923-22924 22952-22953 22991- 22994 23046 23059-23060 23070 23074-23076 23229- 23233 23235 23242-23244 23251 23328 23343-23344 23356-23360 23382-23390 23409-23411 23433 23470- 23472 23492-23493 23508-23511 23543-23544 23761 23941-23956 23999-24001 24014-24018 24120-24125 24481-24490 24665 24772-24774 25319-25321 25370- 25372 25416-25417 26024-26028 26196-26199 26237- 26239 26266 26316-26321 26327 26361-26365 26430 26788-26789 26860-26862 26879 26988 27052 27142-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27146 27193-27200 27218 27247-27251 27269-27270 27493-27495 27504-27507 27544-27545 27600-27601 27700-27701 27755-27756 27821-27822 27825-27826 27861-27864 27989-27990 28008-28011 28142-28145 28286 28416-28417 29278-29283 29328-29331 29343- 29345 29352-29353 29960-29961 30141-30142 30224- 30232 30361-30368
lymph node	Clontech	ALN001	167 170-171 180-181 302 332 395 425-427 505 635 670- 671 849-851 919-922 973-987 998-1000 1028 1047 1086- 1087 1232-1234 1259-1262 1273-1279 1307 1456-1460 1499 1569-1570 1667-1668 1705-1714 1879-1880 1943 2063-2065 2126-2129 2272-2274 2404-2406 2409 2471- 2474 2533 3151-3154 3322-3323 3377 3461-3463 3512- 3514 3737 3822 3834-3835 3879-3880 4255 4555-4556 4562-4568 5335-5336 5572-5573 5580 5650-5651 5802 5805-5807 5910-5911 6403-6404 6832-6850 7216-7219 7447-7449 7643-7647 7654-7655 7697 7744-7746 7757- 7759 7763-7770 7890 7972-7975 7978-7985 8010-8012 8342 8698-8700 9043-9045 9306-9311 9475-9476 9487- 9488 9531 9615-9616 9780-9781 9916-9920 10273- 10274 10306 11123-11124 11295-11296 11339-11344 11431-11432 11476-11478 11538-11540 11607-11608 11696 11780-11782 11835-11836 12140 12150-12151 12374-12377 12545-12546 12615-12618 12642-12644 12723 12760-12762 12782-12784 12796-12798 12872- 12881 13077-13082 13592-13595 13906 14304-14305 14546-14549 15182-15183 15190-15191 15290-15291 15545-15546 15548-15550 15576-15577 15699-15700 16044-16046 16110-16112 16284-16289 16370-16374 16536-16538 16545 16609-16611 16628-16631 16636- 16637 16642 16652 16954-16961 17046-17057 17131- 17132 17330-17332 17454-17456 17958-17962 18015- 18016 18029-18030 18405-18406 18411 18533-18534 18579-18581 18617 18719-18726 18750-18758 18771- 18772 18778-18780 18789 18805 18811-18813 18822- 18824 18836-18838 18846-18853 18899-18903 18975 18996 19018 19062-19065 19090 19122-19131 19138- 19140 19154-19155 19211-19212 19274 19283-19294 19370 19380-19384 19390-19394 19401-19402 19415- 19417 19442-19444 19503 19526-19529 19688 19693 19706-19708 19743-19751 19813-19815 19915-19918 19921-19923 19948-19949 19972-19980 20048-20052 20066-20068 20106-20110 20161-20164 20172-20179 20182-20188 20235-20240 20257-20262 20437-20440 20558 20563-20567 20767 20924-20925 20938-20942 21027-21031 21233-21235 21277-21280 21377-21402 21480-21482 21495-21500 21529-21530 21587-21646 21978-21982 22115-22116 22141-22143 22160 22277- 22283 22312-22313 22336-22342 22358-22359 22373 22455-22465 22644-22651 22668 22690 22700-22701 22732-22735 22737-22739 22823-22827 22838-22842 23046 23070 23074-23076 23098-23101 23237-23239 23379-23381 23433 23448-23450 23473-23474 23486 23492-23493 23495-23496 23508-23509 23526-23531 23761 23802-23805 23999-24001 24014-24018 24772-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			24774 25085-25090 25319-25321 25383-25401 26024-26028 26237-26239 26266 26338 26341-26344 26373-26374 26479-26545 26755-26756 26855-26857 27113 27147-27149 27158-27163 27177-27178 27203-27206 27218 27245-27246 27269-27270 27283-27287 27304-27305 27510-27511 27562-27563 27600-27601 27636-27639 27814-27815 27825-27826 27861-27864 27989-27990 28142-28145 28157-28159 28449 29328-29331 29339-29340 29451-29452 29940-29949 30141-30142 30150-30156
young liver	GIBCO	ALV001	10-14 165-166 170-171 202-203 218-219 324-325 332 461-463 534-535 582-584 674-676 847-848 900-904 1035-1037 1058-1060 1123-1127 1346-1347 1431 1470 1478 1527-1528 1705-1714 1778-1779 1908-1909 1967 1980-1982 2015-2018 2284-2298 2570-2574 2599-2603 3255-3259 3276-3277 3374-3376 3507 3512-3514 3518-3520 4091-4095 4160-4162 4273-4274 4343-4346 4370-4371 4515-4516 4562-4568 4600-4601 4640-4643 4857-4861 5152-5153 5335-5336 5370 5512-5516 5519-5521 5572-5573 5899-5902 5997-6000 6011-6021 6400 6572-6574 6585-6592 6791-6794 7209-7212 7214-7215 7258-7263 7426-7442 7536-7541 7630-7636 7648-7653 7671-7673 7681-7687 7701-7703 7742-7743 7778-7783 7798-7805 7815-7818 7930-7932 7947-7948 7995-7997 8017-8019 8079 8113-8114 8145-8151 8157-8159 8187-8200 8242-8246 8250 8342 8349-8350 8377-8379 8434-8452 8461-8464 8497-8499 8502-8503 8512-8513 8543-8550 8554-8555 8607-8609 8689-8690 8758-8759 8762-8766 9317-9318 9391-9392 9395-9396 9460 9475-9476 9478 9522-9525 9531 9558 9561-9562 9585-9589 9617-9626 9719-9722 9829-9832 9848-9850 9854-9855 9874-9895 9902-9904 9929-9935 9965-9968 9984-9985 10167-10172 10265-10267 10277 10484-10487 10520-10522 10588-10591 10907-10912 10936-10937 10966 11314-11315 11406-11407 11431-11432 11468-11472 11495 11741-11742 11803-11804 11840 11890-11891 12140 12173 12177-12181 12637 12723 12829-12830 12948-12962 13077-13079 13638-13641 13865-13866 13873-13875 13999-14003 14054-14056 14692-14693 14784 14789-14791 15011-15012 15019-15024 15096 15182-15183 15218-15219 15243-15248 15250-15251 15290-15291 15381-15385 15406-15407 15412-15414 15530-15531 15548-15550 15576-15577 15588-15589 15591-15592 15863-15866 16168-16171 16177-16181 16365-16366 16484-16486 16545 16550-16552 16601 16636-16637 16642-16648 16652 16702-16703 16710-16712 16752-16753 16851-16853 16878-16881 16894-16896 16913-16915 16934-16937 17026-17028 17284-17285 17330-17332 17857-17861 17955 18001-18003 18029-18030 18069-18072 18207-18210 18421-18422 18500-18501 18527 18536-18537 18642-18643 18668-18677 18719-18722 18730-18732 18745-18758 18761 18773-18777 18789 18796 18829-18834 18857-18880 18906-18907 18925-18933 18942 18955-18959 18976-18977 19029-19035 19221-19222 19224-19225 19228-19229

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19274-19279 19306-19307 19316-19317 19345-19349 19370 19387-19389 19395-19402 19422-19431 19512- 19513 19567-19573 19586 19598-19601 19617-19619 19663-19666 19670-19673 19706-19708 19727-19732 19736-19748 19759-19763 19814-19815 19819-19822 19919-19920 19943-19946 20029-20043 20087-20094 20133-20148 20151-20154 20161-20164 20189-20194 20208-20218 20241 20253 20265-20273 20286-20287 20299 20349-20354 20411 20425-20426 20432-20446 20469-20471 20547 20554-20557 20559-20562 20575- 20578 20614-20619 20635-20636 20646-20652 20666- 20671 20676-20680 20688 20712-20713 20718-20725 20753 20758-20766 20792-20797 20819-20821 20827- 20843 20868-20870 20897-20900 20938-20942 20999- 21004 21027-21031 21062-21066 21076-21096 21170- 21174 21202-21210 21241-21247 21256-21262 21277- 21283 21297-21298 21326-21334 21359-21360 21434- 21439 21447-21450 21463-21465 21470-21476 21516- 21528 21647-21655 21877-21880 21925-21928 21962- 21966 21973-21974 21978-21982 22000-22002 22007- 22015 22020-22025 22030-22034 22040-22044 22084- 22086 22101-22107 22160 22165-22168 22187-22192 22261-22270 22284-22289 22303-22309 22333-22335 22343-22346 22351 22365 22495 22534-22539 22571- 22581 22607-22609 22655-22657 22661-22664 22675- 22677 22680-22684 22690 22794-22796 22805-22816 22948-22950 22971 22991-22994 23057-23058 23212- 23215 23229-23233 23379-23381 23415-23419 23433 23473-23474 23483-23485 23492-23493 23508-23511 23519-23520 23543-23544 23673-23686 23700-23701 23761 23771-23780 23800 23878-23880 23893-23902 24014-24018 24021-24024 24481-24490 25085-25090 25306 25319-25321 25347-25354 25374-25375 25416- 25417 26024-26028 26196-26199 26205-26206 26221- 26223 26237-26239 26260 26327 26347-26348 26373- 26374 26423 26469-26470 26788-26789 26843 26853- 26854 26860-26865 26873-26875 26879 26882-26884 27044-27047 27052 27173-27174 27180-27188 27193- 27200 27269-27270 27340-27342 27498-27503 27544- 27545 27649-27654 27729-27739 27750-27754 27809- 27811 27814-27815 27989-27990 28099-28100 28186 28286 28424 29328-29331 29343-29345 29940-29949
adult liver	Invitrogen	ALV002	77 170-171 255-256 318 398-399 553-554 619-620 716- 717 901-904 912 969-971 1001-1003 1080-1081 1097- 1098 1120-1121 1123-1127 1136-1139 1205-1206 1273- 1279 1307 1432-1435 1438-1439 1499 1520 1678-1680 1688-1689 1691 1705-1714 1838 1923-1924 2015-2018 2086-2087 2570-2574 2690 2871-2873 3203 3374-3377 3468-3471 3512-3514 3555-3558 3686-3691 3840-3852 3925-3930 3934-3935 3949-3953 4151-4155 4441-4443 4531-4533 4543-4545 4555-4556 4863-4864 4874-4889 4979-4981 5080-5081 5285-5287 5808-5812 5973-5975 5980-5984 6135-6136 6488-6489 6638-6639 6791-6794 7275-7276 7279-7282 7374 7461-7464 7615-7617 7648- 7653 7671-7673 7681-7687 7771 7787-7788 7795-7797

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			7972-7975 8017-8019 8084-8085 8094 8107-8108 8113- 8114 8187-8200 8227-8232 8242-8246 8310 8323-8325 8342 8347-8348 8434-8448 8507-8508 8512-8513 8576- 8582 8733-8737 9072-9074 9264-9265 9306-9311 9317- 9318 9454-9455 9475-9476 9529-9531 9594-9602 9617- 9626 9757-9767 9794-9795 9828 9899-9901 9927-9928 9953 9956-9957 9969-9980 9984-9985 10015-10016 10262-10267 10451-10453 10498-10503 10550 10595- 10599 10603-10606 10624-10626 10835-10839 10870- 10872 10881-10883 10913-10914 11046-11047 11212- 11219 11544-11545 11563-11564 11574-11576 11612- 11639 11651-11655 11669-11671 11757-11758 11835- 11836 11901-11905 11921-11930 12150-12151 12190- 12191 12206-12208 12486-12518 12673-12678 12707- 12711 12725-12727 12829-12830 12944-12962 12965- 12972 13505-13511 13531-13535 13576-13579 13603- 13605 13632-13633 13638-13641 13668-13672 13937- 13938 14048-14053 14061-14063 14137-14138 14264- 14269 14283-14288 14604 14650-14651 14683 14720 14789-14791 14981-14983 15182-15183 15243-15248 15412-15414 15576-15577 15588-15589 15614-15616 15661-15663 15688-15694 15863-15866 15988-15996 16365-16366 16536-16538 16545 16570-16573 16602- 16608 16642-16648 16652 16798 17026-17028 17112 17131-17132 17238-17241 17335-17339 17454 17487- 17488 17791-17799 18015-18016 18023 18136-18138 18421-18422 18642-18650 18655-18658 18750-18756 18773-18776 18796 18806-18807 18829-18834 18839- 18845 18904-18905 18919-18921 18925-18933 19062- 19065 19096-19101 19207-19208 19213-19220 19271- 19272 19274-19279 19308-19309 19316-19317 19351- 19354 19368-19370 19385-19386 19390-19394 19422- 19431 19442-19444 19458-19460 19503 19514-19521 19566 19586 19617-19619 19663-19666 19670-19671 19709-19710 19733-19735 19757-19763 19772 19915- 19918 19939 19943-19946 19953-19957 20128-20130 20133-20136 20146-20148 20157-20160 20200-20207 20231-20234 20241 20263-20264 20271-20273 20286- 20287 20289 20363-20368 20406-20407 20432-20446 20469-20471 20485-20490 20514-20520 20524-20535 20559-20568 20635-20636 20646-20648 20712-20717 20727-20734 20747-20751 20758-20766 20789-20791 20816-20818 20822-20823 20836-20843 20855-20857 20871 20897-20900 20943 20948-20949 20999-21008 21027-21031 21088-21096 21105-21111 21133-21135 21171-21174 21194-21196 21208-21210 21248-21252 21281-21283 21297-21298 21326-21334 21377-21397 21410-21414 21447-21453 21467-21476 21485-21491 21718-21724 21788-21799 21911-21912 21917-21921 22007-22015 22030-22034 22047 22074-22076 22117- 22119 22160 22265-22276 22284-22289 22303-22309 22323-22328 22333-22335 22343-22346 22351 22357 22495 22534-22539 22551-22552 22559 22571-22581 22607-22609 22625-22628 22632-22633 22644-22651 22661-22662 22680-22684 22730-22731 22833-22834

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			23125-23136 23279-23281 23415-23419 23475-23479 23492-23493 23515-23518 23543-23544 23673-23674 23682-23686 23690 23761 23771-23780 23793-23797 23839-23840 23845-23848 23878-23880 23890-23902 23999-24001 24005-24018 25085-25090 25279-25288 25319-25321 25323-25325 25340-25341 25347-25354 25374-25375 25416-25417 26024-26028 26196-26199 26248-26251 26273-26279 26338 26347-26348 26350- 26352 26610-26614 27239 27384-27385 27438 27446- 27451 27498-27500 27544-27545 27600-27601 27636- 27639 27649-27654 27861-27864 27983 27995-27997 28004 28050-28059 28087-28091 28099-28100 28142- 28147 28272-28276 28416-28424 28426-28428 28882- 28887 29332-29337 29354-29357 29427-29431 29938- 29939 29950-29953 30085-30087
adult liver	Clontech	ALV003	5370 8434-8448 9382 9475-9476 11123-11124 13638- 13641 18829-18834 19148 19221-19222 19275-19279 19667-19668 19921-19923 23419 26327 26843 27269- 27270 30141-30142
adult ovary	Invitrogen	AOV001	3-4 10-14 16 30 48-49 51-52 144-145 156 170-171 177- 178 180-181 192 195-200 221 227-230 251-252 255-256 273-280 307-308 315-316 324-325 329-330 332 360-361 367 373-374 395 400 404-407 412-413 419-420 425-427 464-467 470-471 515-517 524-525 528 534-535 540-547 549 573-575 582-584 635 637 669 677 680-684 689-699 716-722 785-786 832-836 845-848 852-855 860-863 868- 875 878-882 901-904 913 919-922 934-935 964 969-971 981-985 1001-1004 1040-1041 1047 1072-1073 1092- 1094 1097-1098 1101-1106 1108-1139 1158-1161 1199- 1200 1246 1259-1265 1273-1279 1291-1306 1308-1313 1359 1371-1375 1388-1401 1408-1419 1422-1423 1430- 1437 1440-1448 1451 1453-1454 1467-1470 1474 1478 1483 1499-1502 1618 1620 1626 1667-1668 1678-1687 1705-1714 1721-1722 1778-1779 1840 1851 1866-1872 1899-1900 1912-1913 1915-1916 1925-1927 1967 1986- 1987 2015-2018 2030 2033-2034 2036 2072 2197-2198 2202-2203 2222-2226 2234-2235 2272-2276 2299 2306 2404-2406 2428-2431 2469-2474 2513 2516 2525-2528 2540-2541 2570-2574 2585-2586 2656-2658 2663-2665 2774-2775 2814-2815 2846 2852-2853 2871-2873 2888- 2910 2916 2918-2919 2923-2924 2926 2934-2935 2948- 2949 2951-2955 2975-2977 2988-2989 3006-3008 3023- 3025 3037-3038 3094-3096 3105-3106 3126-3127 3151- 3154 3182-3187 3195-3197 3205-3207 3255-3259 3268- 3269 3271-3272 3276-3279 3290 3306-3308 3310-3311 3322-3323 3326-3331 3336-3337 3345 3374-3376 3433- 3434 3454 3464-3466 3468-3471 3477-3478 3507 3512- 3520 3526-3529 3531-3534 3550-3560 3565-3588 3624 3675-3676 3686-3691 3693 3731-3732 3768-3769 3789- 3809 3834-3835 3840-3852 3860 3939-3941 3949-3953 4067-4076 4122-4126 4134-4136 4151-4162 4220-4238 4413-4415 4441-4443 4450 4483-4485 4512-4516 4531- 4533 4542 4555-4556 4562-4576 4581-4582 4600-4601 4608-4614 4623-4639 4683-4684 4700 4780-4781 4785- 4789 4795-4809 4819-4823 4857-4861 4868-4869 4950-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			4951 4958-4959 4971-4974 4980-4981 4984-4985 5057- 5059 5080-5082 5092-5094 5109-5115 5149-5150 5192 5253-5266 5269-5271 5285-5287 5335-5336 5364 5371 5384-5386 5480-5482 5495-5496 5499-5501 5517-5521 5525-5526 5557-5560 5572-5573 5581-5583 5591-5592 5652-5654 5695-5698 5700 5703-5704 5710-5711 5744- 5747 5765 5802 5824 5827-5846 5849 5854-5858 5898- 5922 5939-5941 5943-5948 5953-5954 5973-5975 5980- 5984 5986-5989 6135-6136 6140-6143 6163-6168 6235- 6237 6282-6283 6335-6336 6386 6403-6405 6452-6453 6461-6483 6523-6526 6533-6535 6551-6567 6623 6657- 6661 6791-6794 6853-6854 6932-6938 7056-7057 7187- 7190 7192-7193 7209-7212 7216-7219 7245-7248 7256- 7271 7283-7298 7360-7361 7421-7423 7426-7442 7534- 7541 7554-7555 7576-7577 7580-7597 7604-7605 7608 7611-7612 7615-7617 7620-7621 7624-7629 7643-7647 7654-7656 7660-7665 7671-7673 7678-7689 7693-7703 7726-7727 7742-7743 7745-7751 7778-7786 7789-7797 7802-7805 7815-7818 7821-7822 7824-7825 7890-7901 7904-7912 7917-7918 7924-7925 7953-7955 7957 7968- 7971 7976 7978-7985 7988-7994 8002 8008-8012 8017- 8020 8025-8026 8041-8042 8049-8056 8069 8074-8076 8079 8084-8085 8090-8093 8132-8136 8142-8156 8162 8178-8185 8187-8200 8216-8218 8227-8232 8234 8247- 8248 8253-8257 8263-8265 8297-8300 8313-8314 8339- 8344 8347-8360 8363-8364 8368-8369 8383-8389 8404- 8406 8415 8420-8425 8430-8433 8449-8452 8461-8464 8487-8488 8497-8499 8504-8505 8509 8512-8513 8537- 8550 8601-8603 8607-8609 8612-8616 8736-8737 8751- 8766 8768-8770 8917-8933 8936-8945 8982-8983 8986- 8991 9002-9006 9013-9020 9022-9025 9031-9045 9063- 9067 9072-9074 9306-9311 9316 9331-9333 9337-9338 9343-9346 9382 9391-9392 9408-9414 9443-9445 9456- 9459 9472-9476 9479-9485 9506-9531 9546-9549 9559- 9566 9570-9578 9581-9583 9590-9592 9594-9604 9609- 9610 9613 9615-9626 9659 9676 9714-9718 9726-9727 9729-9731 9733-9744 9782-9783 9794-9795 9815-9820 9828-9834 9848-9852 9854-9855 9857-9861 9899-9904 9916-9920 9923-9924 9927-9935 9947-9952 9956-9957 9960-9961 9965-9968 9981-9992 9997-10009 10015- 10019 10025-10026 10038-10040 10164-10166 10173- 10174 10253 10263-10277 10306 10311 10449-10453 10480-10482 10488-10489 10491-10493 10498-10503 10508-10512 10531-10532 10537-10538 10588-10594 10600-10608 10612-10623 10627-10633 10638-10644 10820-10821 10873-10875 10877-10878 10881-10883 10899-10903 10913-10914 10927-10928 10931-10933 10936-10937 10963-10964 10966 10980-10985 11042- 11044 11066-11068 11135 11147-11156 11212-11219 11292-11303 11318-11320 11339-11350 11372-11396 11406-11407 11419-11426 11429-11434 11460-11466 11473-11474 11476-11478 11489-11494 11496-11498 11538-11540 11544-11546 11561-11562 11586-11606 11609-11648 11656-11657 11669-11671 11696 11715- 11716 11731-11734 11739-11740 11745-11748 11753-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			11763 11766-11768 11777-11782 11791 11803-11804 11809 11835-11836 11842 11856-11857 11886-11891 11901-11905 11941-11944 12023-12026 12040-12041 12121-12126 12131-12132 12135-12137 12150-12151 12186-12191 12202-12208 12215-12217 12226-12228 12245-12253 12256-12257 12259-12262 12361 12374- 12377 12432-12433 12446-12450 12455-12459 12470- 12471 12478-12482 12486-12542 12545-12546 12555- 12561 12564 12573-12574 12581-12582 12619-12624 12637 12642-12644 12646 12655-12658 12665 12673- 12675 12701-12705 12707-12711 12714-12723 12755- 12762 12785-12787 12796-12798 12803-12806 12824- 12827 12829-12830 12872-12881 12968-12969 12977- 12981 12997-12999 13068-13070 13077-13079 13425- 13495 13512 13552-13559 13571-13573 13576-13579 13585-13588 13592-13597 13603-13612 13627-13633 13638-13651 13752-13753 13865-13866 13876-13881 13885-13887 13908-13910 13927-13929 13937-13938 13954-13956 14004 14008-14020 14044-14045 14054- 14056 14058-14059 14098-14099 14104 14123-14124 14130-14131 14137-14140 14173-14181 14192-14195 14199-14201 14206 14216-14226 14257 14261-14265 14283-14291 14304-14305 14346 14355-14356 14546- 14549 14604 14607-14609 14628-14635 14650-14651 14666-14668 14681-14682 14684-14689 14707 14784 14789-14791 14866-14870 14991-14992 15011-15012 15075-15084 15091-15096 15182-15183 15187-15189 15218-15219 15233-15236 15243-15248 15250-15251 15257 15283-15291 15302-15322 15329-15340 15392- 15396 15406-15414 15454-15456 15460-15461 15496- 15525 15536-15537 15545-15546 15563-15564 15568- 15572 15576-15577 15581-15584 15588-15589 15600- 15601 15631-15632 15686-15687 15699-15700 15863- 15868 15878 15880 15888-15895 15925-15931 15988- 15990 16041-16046 16059 16075-16079 16086-16088 16096-16097 16107-16109 16115-16117 16141-16143 16145-16146 16152-16155 16168-16171 16174-16176 16237 16239 16377 16408-16409 16422-16431 16443- 16445 16470-16472 16479-16488 16494-16500 16508- 16511 16545 16576-16598 16600 16602-16608 16623 16636-16655 16663-16667 16702-16705 16714-16723 16752-16753 16787-16788 16800-16803 16828-16831 16836-16842 16851-16853 16860-16870 16894-16896 16934-16937 16942 16949-16953 16996-16997 17018- 17020 17038-17041 17074-17077 17119-17122 17131- 17132 17145-17146 17153-17154 17242-17243 17264- 17274 17286-17296 17330-17332 17335-17339 17394- 17395 17454-17456 17791-17799 17958-17963 18015- 18016 18024-18030 18038-18042 18046-18048 18097- 18134 18136-18138 18374-18375 18400-18402 18405- 18406 18412-18418 18421-18425 18495-18501 18516- 18518 18527 18536-18537 18583-18586 18629-18637 18644-18650 18655-18658 18662 18668-18677 18680- 18681 18691-18693 18717-18726 18729 18745-18761 18771-18776 18784-18793 18797-18804 18806-18807

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			18836-18841 18846-18854 18856-18880 18882-18888 18894-18896 18899-18905 18908-18910 18915-18918 18923-18939 18943-18950 18955-18959 18964-18969 18975-18977 18989-18990 18993-18996 19001-19004 19012 19018-19024 19029-19039 19045-19048 19055 19057-19065 19071-19083 19096-19118 19134 19142- 19147 19207-19210 19224 19226-19227 19251-19257 19260-19262 19264 19266-19267 19273-19274 19283- 19296 19306-19309 19316-19317 19341-19342 19345- 19360 19362-19364 19368-19370 19372-19374 19380- 19384 19387-19402 19415-19434 19438-19444 19461 19484-19486 19488-19493 19503 19515-19521 19530- 19531 19560-19562 19564-19565 19567-19578 19586- 19587 19617-19622 19625 19627 19656-19657 19659- 19661 19663-19668 19670-19678 19683-19687 19689- 19693 19699-19708 19727-19735 19743-19748 19759- 19767 19772 19800-19815 19855-19856 19915-19929 19933-19939 19943-19946 19948-19950 19965-19967 19969-19981 20015-20017 20029-20052 20066-20073 20087-20102 20106-20112 20120 20122-20127 20130 20133-20148 20157-20160 20167-20197 20200-20214 20226-20230 20235-20240 20244-20249 20253 20257- 20270 20286-20289 20299 20317-20320 20328-20330 20345-20359 20362 20366-20368 20393-20405 20412- 20413 20415-20431 20437-20451 20456-20475 20485- 20494 20497-20498 20501 20505-20520 20524-20535 20537-20545 20548-20578 20607-20612 20614-20619 20625-20634 20644-20652 20666-20671 20676-20681 20683-20685 20688-20692 20698-20707 20710-20711 20714-20726 20752-20753 20758-20767 20788-20791 20801-20815 20819-20849 20853-20863 20865-20870 20881 20885-20900 20922-20932 20938-20943 20948- 20949 20957-20972 20977-20988 20991 20999-21004 21011-21015 21021-21023 21027-21031 21060-21071 21076-21087 21097-21114 21122-21127 21141-21142 21145-21151 21153-21154 21157-21169 21171-21174 21197-21198 21202-21207 21221-21222 21225-21226 21229-21235 21237-21252 21256-21266 21272-21274 21277-21280 21284-21294 21297-21298 21301-21303 21334 21343-21350 21353-21354 21359-21360 21377- 21397 21410-21414 21418-21426 21428-21439 21447- 21453 21463-21465 21467-21469 21480-21482 21485- 21491 21495-21500 21516-21530 21554-21556 21587- 21655 21718-21724 21729-21733 21877-21885 21892- 21894 21911-21912 21915-21921 21924-21939 21955- 21968 21971-21972 21975-21987 21989-21993 21995- 22025 22047-22049 22056-22076 22080-22083 22090- 22094 22101-22107 22115-22119 22128-22138 22141- 22143 22160 22165-22168 22171-22177 22187-22192 22195-22198 22204-22211 22218-22226 22230 22243- 22252 22256-22260 22265-22299 22303-22309 22312- 22335 22343-22356 22358-22371 22373 22377-22380 22399-22410 22433-22435 22440-22448 22455-22465 22495 22534-22539 22551-22558 22560-22565 22570- 22581 22599-22602 22607-22609 22622-22628 22632-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22651 22653-22654 22661-22667 22669-22677 22690 22696-22697 22700-22701 22726-22727 22730-22735 22741-22742 22750-22762 22768-22770 22775-22776 22781-22782 22794-22796 22801-22816 22821-22822 22828-22829 22846-22853 22861-22868 22870-22874 22881-22886 22899-22906 22911 22923-22924 22955- 22957 22962-22970 22973-22976 22978-22986 22991- 22994 22998 23007-23021 23046-23050 23059-23060 23063 23070-23076 23084 23098-23104 23117-23119 23125-23136 23138-23141 23201-23202 23206-23221 23229-23233 23236-23239 23242-23245 23249 23251- 23256 23261-23263 23279-23281 23321-23327 23343- 23344 23353-23354 23356-23360 23379-23390 23392- 23395 23399-23401 23415-23419 23428-23432 23448- 23450 23470-23479 23486 23489-23490 23492-23493 23495-23498 23508-23514 23543-23544 23546 23599 23682-23686 23692-23693 23704 23718-23721 23726- 23736 23760-23763 23765-23767 23770-23780 23793- 23797 23806-23809 23816-23819 23827-23833 23839- 23840 23843-23848 23867-23870 23878-23880 23882- 23904 23906-23910 23941-23956 23990-23992 23999- 24001 24005-24011 24014-24018 24021-24025 24029- 24033 24035-24040 24056 24092-24097 24120-24125 24481-24490 24772-24774 24802-24816 25085-25090 25114-25126 25279-25290 25319-25321 25323-25325 25338-25341 25355-25358 25368-25369 25373 25376- 25377 25416-25417 25848 26024-26028 26196-26199 26205-26213 26235-26243 26258-26259 26266 26280 26285-26290 26292-26302 26305-26306 26316-26321 26326 26328-26329 26337 26349-26352 26358-26365 26373-26374 26376-26377 26421-26424 26431 26460- 26463 26567-26585 26596-26606 26665-26666 26678- 26680 26684 26733-26735 26746 26755-26756 26788- 26789 26804-26805 26843-26845 26860-26862 26873- 26879 26885-26887 26980-26984 26998-27011 27044- 27047 27052 27058-27059 27067-27070 27074-27077 27091 27100-27102 27105 27150-27151 27154-27155 27173-27174 27193-27200 27207-27215 27218-27221 27229-27232 27247-27251 27261-27265 27269-27276 27283-27287 27293-27301 27304-27305 27348-27353 27411-27412 27414-27431 27439-27444 27468 27493- 27495 27497-27507 27510-27511 27520-27521 27544- 27545 27557-27563 27574-27584 27589-27592 27600- 27606 27636-27639 27649-27656 27662-27672 27698- 27701 27719-27720 27729-27739 27807-27808 27812- 27822 27825-27826 27840-27844 27848-27852 27861- 27864 27890-27892 27940-27942 27989-27990 27992- 27997 28045-28047 28050-28059 28095-28096 28099- 28100 28105-28122 28138-28140 28142-28145 28157- 28158 28186 28199-28203 28263-28268 28286 28290- 28292 28311-28313 28315-28316 28361-28362 28424 28426-28428 28468-28484 28573-28578 29050-29070 29265-29267 29278-29283 29301-29303 29328-29331 29339-29340 29343-29345 29354-29358 29378-29379 29405 29409-29416 29418-29419 29432-29435 29451-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			29452 29508-29518 29594-29604 29611-29613 29746-29761 29938-29949 29960-29963 30085-30087 30141-30142 30150-30156 30184-30188 30195-30199 30205 30233-30235 30240-30250 30361-30368
adult placenta	Clontech	APL001	48-49 708-711 2072 2517-2518 3717-3719 3834-3835 3871-3872 4574-4576 4857-4861 4971-4974 5285-5290 5337-5341 5655 5717-5718 6166-6168 6488-6489 6932-6938 7611-7612 7757-7759 8461-8464 8487-8488 8512-8513 8554-8555 9031-9035 9487-9488 9531 9676 11431-11432 12150-12151 12241-12244 12978-12981 14261-14263 15098-15099 15567 15631-15632 16536-16538 16636-16637 17238-17241 18029-18030 18502-18515 18536-18537 18633-18637 18655-18658 18750-18756 18836-18838 18856 19254-19255 19351-19354 19375-19379 19938 19953-19957 19972-19980 19995-20014 20029-20043 20167-20171 20222-20225 20265-20270 20345-20348 20510 20559-20562 20698-20707 21046-21056 21241-21247 21334 21377-21397 21405 21434-21439 21554-21556 21647-21655 21929-21935 21951-21954 22152-22156 22169-22170 22265-22270 22358-22359 22857-22858 22887-22891 22904-22906 22978-22979 23555-23565 23761 23890-23892 25306 26252 26327 26835 26860-26862 27015 27698-27699 27799-27802 27814-27815 28189-28190 28468-28484 29332-29337 29339-29340 29367
placenta	Invitrogen	APL002	319-323 333-335 505 619-620 697-699 708-711 900 1004 1123-1127 1142-1152 1235-1237 1692-1693 2383-2388 2471-2474 2773 3131 4091-4095 4129-4130 4206-4208 4213-4214 4441-4443 4569-4573 5285-5287 5899-5902 5919-5921 7604-7605 7671-7673 7924-7925 8010-8012 8046 8132-8136 8152-8156 8253-8262 8502-8503 8512-8513 9337-9338 9446-9448 9472-9474 9689-9707 9953 10015-10016 10161-10163 10268-10272 10451-10453 10484-10487 10603-10606 10612-10614 10835-10839 11226-11227 11345-11350 11399-11402 11544-11545 11561-11562 11711-11712 11803-11804 11840 12040-12041 12050-12056 12190-12191 13908-13910 13925-13926 14346 14787-14788 14981-14983 15013-15024 15290-15291 15298-15299 15412-15414 15576-15577 16115-16117 16130-16132 16174-16176 16432 16949-16953 17238-17242 17286-17291 17335-17339 17958-17962 18136-18138 18421-18422 18502-18515 18651-18658 18839-18841 18919-18921 18964-18973 18975 18996 19062-19065 19134 19375-19384 19422-19431 19494-19496 19526-19529 19566-19573 19659-19661 19670-19671 19679-19682 19698 19743-19748 19759-19763 19810-19812 19814-19815 19921-19923 19933-19937 19943-19946 19995-20014 20099-20102 20120 20151-20154 20257-20262 20411 20480-20481 20501 20575-20578 20607-20612 20625-20628 20653-20665 20752 20824-20835 20879-20880 20888-20889 20897-20900 20943 20977-20984 21123-21127 21155-21156 21197-21198 21440-21445 21451-21453 21480-21482 21554-21556 21917-21921 22003-22015 22084-22086 22092-22094 22117-22119 22193-22194 22218-22226

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22284-22289 22303-22308 22495 22760-22762 22768-22770 22904-22906 22971 23071 23358-23360 23473-23474 23761 23890-23892 23941-23956 24495-24498 25085-25090 25306 25374-25375 25866-25875 26175-26184 26359-26360 26973-26979 27053-27057 27074-27077 27269-27270 27401-27410 27439-27440 27504-27507 27510-27511 27544-27545 27649-27654 27662-27672 27825-27826 28192-28198 28365-28370 28728-28731 29278-29283 29367 29409-29416 29594-29604
adult spleen	GIBCO	ASP001	170-171 180-181 197-200 221 326-327 329-330 358-359 373-374 395 404-405 412-413 425-427 528 534-535 543-545 553-554 656 708-711 785-786 847-848 934-935 981-985 1001-1003 1005 1026-1031 1047 1086-1087 1101-1103 1235-1237 1295-1297 1307 1431 1453-1454 1499 1521 1569-1570 1692-1693 1705-1714 1721-1722 1879-1880 1947-1948 2015-2018 2194 2306 2383-2388 2420-2421 2516 2599-2603 2926 2929-2930 2939-2943 3090 3112 3115 3274-3275 3326-3331 3374-3377 3418-3420 3525 3624 3681-3682 3810-3811 3949-3953 4206-4208 4386-4387 4417-4419 4441-4443 4515-4516 4555-4556 4561 4581-4582 4819-4824 5285-5287 5333 5335-5336 5525-5526 5534-5536 5557-5560 5572-5573 5776 5802 5846 5919-5921 5973-5975 6103-6104 6400 6403-6404 6523-6526 6791-6794 6898-6899 7209-7212 7216-7219 7447-7449 7580-7597 7608 7620-7621 7630-7636 7681-7689 7745-7746 7757-7759 7778-7783 7921-7923 7984-7985 7994 8002 8041-8042 8077-8078 8101-8104 8113-8114 8157-8159 8162 8187-8200 8247-8248 8363-8364 8449-8452 8507-8508 8512-8513 8543-8550 8607-8609 8612-8616 8689-8690 8936-8938 8986-8991 9007-9008 9013-9017 9038-9042 9063-9067 9072-9074 9305 9337-9338 9427-9428 9470-9476 9487-9488 9519-9521 9526-9528 9531-9534 9561-9562 9584 9723-9725 9735-9738 9782-9785 9794-9795 9815-9820 9826 9828 9851-9852 9854-9855 9874-9895 9986-9988 10167-10172 10277 10306 10320-10323 10523-10532 10595-10599 10615-10623 10627-10630 10638-10639 10873-10875 10904-10905 10913-10914 10980-10985 11006-11008 11198-11199 11397-11398 11476-11478 11561-11562 11612-11639 11731-11734 11745-11748 11835-11836 11878-11879 11886-11889 11934 12023-12026 12040-12041 12150-12151 12186-12189 12226-12228 12256-12257 12361 12451 12477 12545-12546 12565-12568 12637 12642-12644 12666-12667 12699 12723 12785-12787 12824-12827 12872-12881 12997-12999 13077-13079 13865-13866 13898 13927-13929 13999-14003 14094 14170-14172 14209-14215 14452-14453 14546-14549 14604 14650-14651 14684-14685 15182-15183 15187-15189 15195-15196 15222-15224 15290-15291 15326-15328 15486-15489 15576-15577 15588-15589 15600-15601 15699-15700 15867-15868 16044-16046 16110-16112 16174-16176 16233-16235 16433 16451-16452 16508-16511 16535-16539 16542-16545 16558-16562 16623 16636-16637 16642 16652 16799-16801 16851-16853 16894-16896 16934-16937 17026-17028 17058-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			17064 17105-17106 17115 17238-17241 17330-17332 17335-17339 17394-17395 17454-17456 17571-17574 17857-17861 17958-17962 17998-17999 18015-18016 18029-18030 18419-18420 18492-18501 18536-18537 18633-18637 18691-18692 18719-18722 18750-18760 18767-18769 18771-18772 18778-18780 18789 18796 18802-18804 18811-18813 18822-18824 18836-18838 18842-18845 18857-18880 18882-18888 18894-18896 18910 18915-18918 18923-18933 18936-18939 18960- 18969 18975-18977 19005-19009 19018 19045-19048 19071-19083 19090 19134 19138-19147 19151 19207- 19210 19260-19262 19266-19267 19283-19294 19306- 19307 19316-19317 19345-19350 19362-19364 19370 19373-19374 19385-19389 19395-19402 19415-19417 19422-19431 19438-19444 19458-19460 19462-19463 19488-19493 19515-19521 19526-19529 19536 19566 19586 19620-19624 19627 19667-19668 19672-19673 19679-19682 19693 19706-19708 19736-19751 19772 19813 19855-19856 19915-19918 19921-19925 19933- 19939 19950 20029-20043 20106-20112 20122-20127 20130 20146-20148 20161-20164 20241 20244-20249 20253 20289 20299-20304 20328-20330 20345-20354 20360 20411 20418-20424 20437-20446 20472-20474 20485-20494 20497-20498 20501 20511-20513 20548- 20553 20569-20578 20599-20601 20614-20619 20629- 20634 20649-20652 20666-20671 20681 20714-20717 20727-20732 20752 20767 20788-20791 20813-20815 20819-20821 20836-20843 20855-20863 20865 20868- 20870 20882-20884 20890-20900 20927-20928 20938- 20942 20999-21008 21122 21176-21180 21194-21196 21202-21207 21256-21262 21272-21274 21277-21280 21284-21294 21301-21303 21334 21398-21402 21447- 21450 21480-21482 21492-21500 21647-21655 21881- 21885 21892-21894 21924 21955-21957 21967-21968 21978-21987 22003-22015 22047 22117-22127 22141- 22143 22160 22187-22192 22253-22255 22261-22276 22284-22289 22312-22313 22343-22348 22358-22359 22373 22405-22408 22495 22534-22539 22571-22581 22607-22609 22634-22636 22690 22700-22701 22703- 22706 22750-22762 22781-22782 22794-22800 22810- 22816 22821-22822 22838-22842 22911 22973 23046 23051-23052 23059-23060 23064-23065 23070-23071 23074-23076 23123-23124 23138-23140 23201-23202 23212-23215 23229-23233 23251 23261-23262 23356- 23360 23386-23390 23400-23401 23415-23418 23434- 23437 23448-23450 23486 23495-23496 23508-23511 23543-23544 23555-23565 23760-23761 23843-23844 23903-23904 23906-23910 24002-24004 24056 24126- 24129 25085-25090 25313 25331-25335 25340-25341 25370-25375 25410-25413 25416-25417 26024-26028 26033-26049 26196-26199 26237-26239 26266 26327 26341-26344 26389-26393 26421-26422 26469-26470 26602 26843 26858-26862 26880-26881 27025-27027 27091 27135 27139-27146 27193-27200 27209-27213 27218 27229-27232 27247-27251 27254-27260 27269-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27270 27299-27301 27379-27380 27496 27510-27511 27544-27545 27562-27563 27572-27573 27633-27634 27636-27639 27649-27656 27698-27699 27750-27756 27830-27838 27861-27864 27890-27892 27989-27990 28099-28100 28138-28140 28142-28145 28286 28290- 28292 28311-28313 28424 28426-28428 29278-29283 29339-29340 29343-29345 29364-29366 29409-29417 29508-29518 29718-29721 29938-29939 29960-29961 30141-30142 30206-30217 30243-30250 30361-30368
testis	GIBCO	ATS001	51-52 156 221 332 395 425-427 468-469 477-482 524- 525 635 656 913 969-971 1001-1005 1047 1123-1127 1273-1279 1451 1667-1668 1812 1912-1913 1944 2072 2202-2203 2212-2213 2540-2541 2599-2603 2874-2876 2988-2989 3004 3195-3197 3281-3282 3374-3376 3479- 3480 3531-3534 3555-3558 3679-3680 4091-4095 4124- 4126 4343-4346 4435-4436 4515-4516 4562-4568 4581- 4582 4651 4785-4789 4865-4867 4984-4985 5335-5336 5572-5573 5581-5586 5656-5657 5766-5767 5773 5802 5919-5921 5943-5945 5973-5975 5980-5984 6140-6143 6235-6237 6403-6404 6762-6764 6791-6794 6852 7209- 7212 7216-7219 7283-7284 7447-7449 7534-7535 7604- 7605 7608 7611-7612 7618-7619 7654-7655 7671-7673 7745-7746 7763-7770 7787-7788 7806-7808 7994 8069 8137-8141 8145-8159 8187-8200 8242-8248 8368-8369 8383-8389 8409-8415 8507-8508 8539-8550 8607-8609 8738-8740 8762-8766 9007-9008 9040-9042 9337-9338 9444 9449-9450 9475-9476 9482-9485 9510-9525 9617- 9626 9829-9832 9851-9852 9874-9895 10025-10026 10038-10040 10167-10172 10277 10306 10449-10453 10488-10489 10531-10534 10607-10608 10615-10623 10628-10630 10638-10639 10873-10875 10938 11011- 11012 11123-11124 11339-11344 11372-11396 11431- 11432 11476-11478 11541-11546 11568-11571 11582- 11583 11674-11678 11697-11698 11711-11712 11731- 11734 11739-11740 11809 11835-11836 12150-12151 12202-12205 12226-12228 12374-12377 12398-12401 12637 12676-12678 12723 12785-12787 12984-12985 12997-12999 13107-13117 13603-13605 13609-13612 13627-13628 13865-13866 13873-13875 13954-13956 14048-14056 14098-14100 14105-14106 14268-14269 14640-14642 14650-14651 15190-15191 15206 15250- 15251 15258-15259 15290-15291 15300-15301 15460- 15461 15465 15545-15546 15548-15550 15576-15577 15588-15589 15988-15990 16168-16171 16365-16366 16473-16478 16609-16611 16636-16637 16642 16804- 16807 16851-16853 16913-16915 16938-16939 16949- 16953 17024-17028 17156-17159 17232 17238-17242 17286-17291 17330-17332 17455-17456 17580 17958- 17962 18015-18016 18029-18030 18412-18418 18527 18644-18650 18668-18670 18673-18681 18691-18692 18729-18732 18738-18749 18761 18771-18772 18778- 18780 18784-18786 18789 18796 18802-18804 18839- 18841 18846-18853 18894-18896 18899-18903 18947- 18950 18955-18959 18964-18969 18978-18982 19013- 19017 19029-19035 19045-19048 19059-19061 19106-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19118 19132 19134 19253 19264 19345-19349 19351- 19354 19362 19370 19380-19384 19407-19411 19422- 19434 19526-19529 19604-19607 19625 19656-19657 19667-19668 19693 19699-19705 19709-19710 19733- 19748 19813 19921-19923 19939 19943-19946 19972- 19981 20029-20043 20064-20065 20087-20094 20106- 20112 20146-20150 20161-20164 20172-20179 20253 20288-20289 20401-20407 20412-20413 20415-20417 20437-20440 20485-20490 20510 20514-20520 20547 20575-20578 20616-20619 20625-20630 20683-20685 20698-20707 20718-20725 20747-20751 20758-20767 20824-20835 20929-20932 20938-20942 20948-20949 20999-21008 21021-21023 21072-21075 21122 21157- 21169 21171-21174 21202-21207 21237-21247 21256- 21266 21275-21276 21377-21397 21408-21409 21485- 21491 21529-21530 21647-21655 21718-21724 21973- 21974 21978 22000-22002 22016-22018 22020-22025 22030-22034 22040-22041 22060-22061 22070-22073 22090-22091 22141-22143 22160 22187-22192 22212- 22217 22250 22265-22270 22277-22283 22310-22311 22314-22317 22323-22335 22343-22348 22358-22361 22366-22371 22373 22399-22404 22495 22534-22539 22544 22561-22565 22571-22581 22599-22602 22644- 22651 22661-22662 22730-22731 22749 22833-22834 22850-22851 22857-22858 22861-22868 22974-22976 22995 23047-23055 23071 23201-23202 23251 23343- 23344 23379-23385 23425-23427 23489-23490 23508- 23509 23720-23721 23731-23736 23762-23763 23771- 23780 23793-23799 23816-23819 23839-23840 23882 23893-23902 23990-23992 24014-24018 24029-24033 24772-24774 25319-25321 25368-25369 25373 25416- 25417 26024-26028 26196-26199 26237-26239 26266 26285-26290 26305-26306 26327 26737 26748-26754 26843 26860-26862 26876-26878 26980-26984 27052 27097 27114-27126 27147-27149 27173-27174 27193- 27200 27261-27265 27269-27272 27294 27304-27305 27570-27571 27600-27601 27636-27639 27726-27739 27861-27864 27890-27892 27943-27947 27989-27990 28095-28096 28142-28145 28286 28308-28313 28424 29278-29283 29328-29337 29339-29340 29409-29416 29718-29721 30141-30142 30150-30156 30218-30220
Genomic DNA from BAC 63118	Research Genetics (CITB BAC Library)	BAC001	3338-3339 4122-4123 4175-4176 4180-4190 4911-4914 5021-5023 5030-5035 5045-5046 5154-5179 7065-7066 7370-7374 7426-7442 8802-8806 8836-8838 8855-8859 8877-8891 9087-9099 9152-9192 9194-9195 9213-9215 9217-9225 9239-9257 9259 9269-9276 9291-9293 9301- 9304 9312-9313 10443-10444 10684-10689 10691-10703 10723-10724 10726-10727 10835-10839 10842-10867 10879-10880 12218-12220 13130-13132 13145 13176- 13178 13324-13325 13422-13423 13677-13680 13683- 13685 13693-13694 13708-13718 13823 13854-13860 14663-14665 15718-15725 15815-15817 15827 15910- 15916 15934-15950 15978-15980 15991-16000 16024- 16027 16232 17637-17641 17673 17688-17696 17738- 17739 17748-17751 17763-17781 17783-17786 17842-

Tissue rigin	RNA Source	Library Name	SEQ ID NOS:
			17847 17862-17863 17876-17879 17881-17885 17888- 17890 17921 18024-18028 18066-18082 18090-18096 18135 18139-18156 18226 18242 18247-18253 18255- 18258 18275-18277 18286-18288 18293-18295 18354 18365-18370 18382-18392 21304-21325 21501-21515 21549-21553 21563 21752-21772 21863-21876 22436- 22439 22449-22454 22525-22530 22596-22598 22605- 22606 23532-23539 23820-23826 24187-24193 24255- 24259 24269-24273 24333-24340 24370-24374 24402- 24425 24449-24462 24610-24623 24686-24693 24727- 24754 24757-24770 24794 24820-24837 24855-24862 24919-24923 24928-24948 24951 24964-24974 24993- 24999 25041-25048 25093-25095 25112-25126 25158- 25177 25254-25256 25366-25367 25418-25440 25447- 25460 25471-25494 25496-25514 25537-25541 25583- 25593 25598-25603 25621 25623 25651-25656 25660- 25672 25676-25679 25687-25702 25741-25782 25821- 25842 25853-25875 25903-25905 25944-25946 25956 25969-26016 26054-26058 26077-26086 26090-26099 26105-26111 26114-26115 26136-26138 26150-26152 26165-26171 26629-26653 26691-26694 26700-26703 27677-27688 27714-27717 27943-27947 28352-28357 28504-28507 28514-28517 28531-28547 28565-28570 28596-28606 28673-28678 28709-28719 28732-28742 28748 28754-28760 28775-28781 28809-28821 28831- 28836 28841-28847 28901-28909 28914-28926 28933- 28935 28944-28958 29012 29031-29038 29071-29075 29096-29101 29104-29107 29154-29156 29179-29186 29203 29225-29231 29446-29466 29468-29487 29492- 29518 29529-29543 29547-29563 29569-29577 29583- 29605 29608-29610 29627-29629 29631-29637 29645- 29654 29660-29672 29686-29703 29708-29710 29763- 29875 29880-29884 29991-29994 30011-30013 30038- 30047 30061 30118-30134 30165-30177 30179-30182 30201-30204 30236-30239 30254-30255 30260-30270 30275-30278 30352
Genomic DNA from BAC 39316	Research Genetics (CITB BAC Library)	BAC002	4007 4037-4042 4177-4190 4193-4199 4905-4907 5030 5036-5046 5326-5330 7036-7037 7043-7055 7089-7091 7094-7099 7175-7177 7374 7392-7395 7407-7414 7421- 7442 7444-7446 8466-8476 8710-8715 8802-8806 8839- 8841 8855-8859 8866-8868 9150-9151 9182-9193 9201- 9208 9213-9229 9231-9234 9258-9259 9277-9286 9291- 9296 9300 9312-9313 10324-10325 10330-10331 10349- 10350 10443-10444 10704-10718 10723-10724 10726- 10750 10755-10769 10773-10777 10835-10839 10842- 10867 10879-10880 11890-11891 13176 13184-13188 13324-13325 13701 13706-13736 13751 13815-13818 13823 13825-13831 13854-13860 14962 14981-14983 15110-15114 15718-15725 15838-15841 15847-15854 15910-15911 15939-15943 15951-15960 15964-15982 15991-16000 16016-16018 16024-16027 17275-17277 17409-17430 17637-17641 17688-17696 17699-17700 17748-17751 17771-17776 17783-17786 17805-17806 17813-17817 17819-17824 17828-17829 17837-17841 17843-17847 17871-17873 17876-17879 17888-17890

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			18010-18012 18024-18028 18075-18080 18090-18092 18139-18144 18155-18156 18161-18168 18175-18190 18204-18206 18211-18223 18226-18253 18255-18268 18275-18284 18300-18322 18354 18361-18370 18382- 18392 18404 21501-21515 21563-21567 21576-21646 21656-21659 21718-21724 21728 21752-21772 22498- 22533 22540-22543 22603-22606 22610-22617 22658- 22660 22698-22699 22702 23029-23045 23364-23370 23702-23703 23820-23826 24183-24193 24227 24246- 24268 24282-24289 24300-24303 24308-24312 24319- 24324 24345-24357 24375-24383 24402-24435 24449- 24462 24610-24623 24666-24680 24686-24693 24726- 24754 24757-24770 24794-24801 24820-24837 24846- 24862 24871-24888 24924 24939-24948 24951 24975- 24977 25029-25048 25052-25060 25078-25084 25091- 25092 25096-25100 25112-25126 25158-25177 25193- 25212 25228-25238 25247-25248 25359-25363 25380- 25381 25436-25440 25450-25470 25476-25482 25496- 25505 25515-25521 25537-25561 25572-25593 25598- 25603 25633-25656 25660-25672 25676-25689 25703- 25842 25847-25896 25901-25965 25969-26018 26077- 26079 26105-26115 26121-26126 26136-26138 26172- 26174 26185-26194 26629-26653 26691-26697 26700- 26703 27714-27717 28352-28357 28489-28490 28504- 28507 28514-28521 28525-28530 28533-28539 28565- 28571 28617-28627 28646-28650 28679-28680 28688- 28694 28709-28719 28754-28760 28768-28781 28800- 28821 28875-28881 28910-28913 28917-28926 28933- 28935 28943-28958 28964-28972 29013-29019 29031- 29038 29071-29075 29087-29088 29096-29101 29128- 29141 29179-29186 29234-29241 29290-29295 29327 29446-29450 29466 29468-29472 29478-29480 29488- 29491 29499 29501-29518 29544-29546 29551-29574 29590-29604 29606-29610 29614-29637 29642-29678 29685-29717 29722-29745 29762-29841 29870-29875 29877-29922 29926-29937 29964-29968 29986-29990 29995-30001 30006-30007 30011-30019 30038-30058 30061 30085-30093 30098-30100 30109-30134 30145- 30149 30165-30177 30271-30278 30283-30295 30321 30343-30347 30352
Genomic DNA from BAC 39316	Research Genetics (CITB BAC Library)	BAC003	1578-1585 4052 4205 4899-4903 4908-4910 5031-5032 5042 5334 6796-6800 7061-7064 7067-7087 7091 7094- 7099 7374 7392-7395 7426-7442 7467-7476 8839-8841 8859 8862 8899-8902 9145-9149 9152-9181 9259 9269- 9304 10443-10444 10759-10764 10819-10868 11076- 11077 13130-13132 13183 13751 13815-13832 15112 15120-15123 15718-15725 15847-15854 15944-15945 15966-15968 15991-16018 16021 17609 17653-17667 17683-17684 17734-17736 17771-17776 17783-17786 17791-17799 17805-17806 17827 17837-17841 17843- 17847 17862-17868 18010-18012 18075-18080 18152- 18154 18175-18183 18211-18214 18216-18218 18230- 18239 18255-18258 18275-18370 21304-21325 21501- 21515 21728 21788-21799 22498-22522 22525-22530 22582-22598 22603-22606 22610-22617 22702 23029-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			23045 23702-23703 23993-23998 24227 24231-24245 24255-24268 24300-24307 24333-24344 24370-24374 24397-24401 24436-24438 24481-24490 24495-24498 24615-24623 24727-24735 24749-24770 24794-24801 24889-24899 24928-24938 24964-24977 24989-24992 24995-24999 25027-25028 25041-25048 25052-25060 25093-25095 25101-25111 25147-25170 25359-25363 25418-25435 25450-25460 25475 25542-25550 25633- 25650 25660-25665 25676-25679 25690-25704 25737- 25795 25821-25835 25883-25896 25912-25943 25957- 25965 25969-26016 26050-26058 26068-26089 26100- 26126 26133-26194 26629-26653 26700-26704 28504- 28507 28514-28517 28531-28539 28663-28665 28673- 28678 28688-28694 28699-28707 28728-28742 28748 28754-28760 28775-28781 28815-28821 28944-28958 28964-28972 29012 29096-29101 29128-29141 29420- 29425 29446-29450 29462-29465 29468-29472 29501- 29507 29535-29543 29564-29568 29583-29586 29590- 29593 29606-29610 29614-29620 29642-29643 29645- 29654 29673-29684 29686-29703 29736-29739 29746- 29761 29763-29836 29879 29892-29895 29923-29935 29964-29974 29980-30019 30022-30064 30084-30100 30109-30134 30179-30182 30236-30239 30256-30259 30334-30340 30360
adult bladder	Invitrogen	BLD001	221 329-330 716-717 796-797 1123-1127 2570-2574 2674-2686 3006-3008 3377 3461-3463 3560 3649-3653 3707 4213-4214 4266-4272 5134-5135 5480-5482 5919- 5921 5943-5945 6154 6460 7534-7535 7924-7925 8010- 8012 8296 8430-8433 8465 9475-9476 9531 9584 9726- 9727 9729-9731 9763-9767 9851-9852 9956-9957 10254- 10261 10881-10883 10904-10905 10980-10985 11345- 11350 11731-11734 12371-12373 12432-12434 12829- 12830 12978-12981 13601-13602 13760 15290-15291 15617-15618 15623-15626 16568-16569 16642 17010- 17014 17286-17291 17330-17332 17455-17456 18405- 18406 18730-18732 18777 18789 18802-18804 18806- 18807 18923-18924 19225 19362 19370 19387-19389 19395-19402 19407-19411 19415-19417 19422-19431 19706-19708 19757-19763 19926-19929 19962-19963 19972-19981 20066-20068 20099-20110 20122-20127 20130 20289 20300-20304 20333-20335 20360 20366- 20368 20495-20496 20501 20505-20510 20524-20535 20537-20541 20625-20628 20631-20634 20676-20680 20747-20751 20868-20870 21021-21023 21171-21174 21236 21284-21294 21351-21352 21428-21433 21447- 21453 21495-21500 21554-21556 21955-21957 21962- 21966 22003-22006 22047 22050-22055 22080-22083 22161-22164 22366-22371 22553-22558 22678-22679 22728-22729 22857-22858 22881-22886 23007-23021 23252-23256 23321-23327 23682-23686 23839-23840 23878-23880 23999-24001 24021-24024 25085-25090 25323-25325 25331-25333 25373 26024-26028 26341- 26344 26460-26463 26860-26862 26880-26881 27807- 27811 27861-27864 27890-27892 28099-28100 28286 28352-28357 28424 28426-28428 29718-29721 30195-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			30199
bone marrow	Clontech	BMD001	30 35-38 48-49 55-73 87-95 105 130-143 156 164-167 170-171 173-181 184 197-200 227-230 240-250 255-256 273-278 301 329-330 332 368-371 419-420 425-427 483 504-506 515-517 546-549 585-588 607 635 656 716-720 738-740 792-795 798-803 832-836 870-871 891 912 919- 922 934-935 937-940 942-944 969-971 981-985 1001- 1003 1005 1028 1044-1045 1047 1049-1050 1065-1066 1092-1094 1097-1098 1158-1161 1163-1164 1240-1241 1307 1314-1319 1321 1388-1401 1414-1417 1431 1467- 1469 1474 1483 1499 1667-1668 1681-1687 1692-1693 1705-1714 1721-1722 1777 1840 1853-1854 1862-1863 1879-1880 1909 1914 1945-1946 1980-1982 1986-1987 1990 2015-2018 2030 2036 2062-2067 2072 2086-2087 2102-2113 2222-2226 2272-2274 2404-2406 2431 2471- 2474 2550-2552 2554-2555 2576 2595-2596 2667 2773 2806 2828-2845 2871-2873 2886-2887 2923-2924 2926 2951-2955 2983-2986 2988-2989 2993 3001 3006-3008 3037-3038 3144-3146 3151-3154 3205-3207 3228 3326- 3331 3355-3356 3433 3461-3463 3474 3508-3510 3515- 3517 3547 3555-3558 3635 3649-3653 3676 3686 3693 3776-3777 3834-3835 3939-3941 3949-3955 4064 4151- 4155 4160-4162 4239-4240 4256 4422-4423 4450 4509- 4511 4515-4516 4555-4556 4562-4568 4726-4727 4751- 4755 4857-4861 4967-4968 5091-5094 5192 5279-5283 5335-5336 5390 5393 5480-5486 5499-5501 5519-5521 5525-5526 5557-5560 5572-5573 5584-5586 5591-5592 5744-5747 5758-5761 5802 5805-5807 5907-5909 5919- 5921 5980-5984 6011-6021 6084 6095-6098 6403-6404 6442-6444 6452-6453 6773-6774 6791-6794 6852 6877- 6878 6884-6885 7187-7190 7209-7212 7216-7219 7245- 7248 7258-7263 7407-7414 7447-7449 7536-7541 7554- 7555 7561-7562 7580-7597 7604-7605 7615-7617 7622- 7623 7630-7636 7640-7647 7657-7659 7678-7687 7693- 7694 7701-7703 7729 7734-7736 7742-7743 7745-7751 7757-7759 7776-7783 7794 7806-7808 7815-7818 7924- 7925 7977 7988 8059-8063 8077-8078 8098-8104 8132- 8151 8182-8183 8219-8220 8230-8232 8234 8247-8248 8250 8253-8257 8263-8265 8301-8306 8349-8350 8361- 8362 8368-8369 8383-8389 8416-8419 8449-8452 8466- 8476 8497-8499 8509 8539-8542 8576-8582 8607-8609 8698-8700 8736-8737 8741-8750 8777-8779 8917-8918 8986-8991 9002-9004 9040-9046 9100-9144 9196-9200 9306-9311 9321-9323 9329-9330 9336-9338 9340-9346 9355-9357 9362-9365 9375-9376 9429-9430 9456-9459 9475-9476 9487-9488 9531 9561-9562 9577-9578 9590- 9592 9603-9604 9617-9626 9743-9744 9759-9762 9780- 9783 9794-9795 9826 9828-9832 9835-9840 9854-9855 9857-9861 9902-9904 9923-9924 9929-9935 9953 9969- 9980 9984-9985 9989-9992 9997-10009 10017-10019 10025-10031 10033-10040 10164-10166 10175-10252 10273-10274 10277-10278 10306 10451-10457 10480- 10482 10513-10515 10531-10532 10537-10538 10543- 10549 10588-10594 10607-10608 10628-10630 10638- 10644 10890-10893 10936-10938 10954-10956 10980-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			10985 11029-11031 11123-11124 11135 11143 11157- 11197 11295-11296 11300-11301 11308-11310 11314- 11315 11317 11339-11344 11399-11402 11431-11432 11434 11467-11474 11476-11478 11495 11505-11506 11531-11532 11538-11540 11544-11546 11561-11562 11586-11602 11607-11609 11649-11650 11669-11671 11711-11712 11731-11734 11745-11748 11766-11768 11780-11782 11809 11835-11836 11840 11842 11974- 11976 12006-12010 12046-12056 12117-12118 12131- 12132 12140 12150-12151 12171-12172 12186-12189 12192-12193 12202-12205 12229-12230 12239 12241- 12244 12258 12360-12361 12374-12377 12446-12450 12455-12459 12519-12540 12543-12546 12555-12559 12565-12568 12573-12574 12590-12592 12615-12618 12642-12644 12655-12658 12666-12667 12701-12705 12723 12725-12727 12755-12762 12785-12787 12796- 12798 12872-12881 12984-12985 12997-13004 13068- 13070 13077-13079 13120-13123 13556-13559 13592- 13595 13598-13600 13603-13605 13609-13612 13627- 13628 13632-13633 13638-13641 13873-13875 13896- 13898 13903-13906 13922-13924 13931-13933 13937- 13938 13954-13956 14030-14031 14048-14053 14058- 14059 14061-14064 14192-14195 14228-14235 14261- 14263 14304-14305 14318-14343 14347-14351 14355- 14356 14386-14387 14546-14549 14552-14555 14557 14604 14607-14609 14650-14651 14683 14784 15003- 15009 15013-15024 15151-15157 15182-15186 15195- 15196 15218-15219 15222-15224 15250-15251 15257 15277-15278 15290-15291 15326-15328 15356-15357 15406-15407 15412-15414 15530-15531 15563-15564 15588-15589 15600-15601 15623-15626 15699-15700 15869-15870 15906-15907 15988-15990 16044-16046 16059-16061 16075-16079 16110-16112 16160-16162 16168-16171 16219-16220 16269-16283 16290-16295 16297-16300 16304-16305 16309 16403-16407 16434- 16439 16451-16452 16467-16469 16517-16519 16530- 16531 16535-16538 16542-16544 16576-16577 16583- 16585 16609-16611 16619-16621 16636-16637 16642 16649-16657 16672-16674 16704-16705 16714-16715 16828-16831 16851-16853 16860-16870 16934-16939 17070-17071 17094-17100 17116 17120-17122 17145- 17146 17292-17296 17330-17332 17335-17339 17385 17454-17456 17489-17490 17924-17926 17940-17942 17958-17962 18015-18016 18029-18030 18055-18060 18069-18072 18157-18160 18371-18372 18376-18377 18405-18406 18411-18418 18492-18494 18500-18501 18516-18518 18520-18527 18536-18537 18562-18581 18583-18617 18625-18628 18644-18650 18661 18668- 18670 18673-18677 18691-18693 18717-18726 18734- 18737 18750-18758 18762-18766 18777-18780 18787- 18789 18796 18802-18804 18806-18807 18825-18828 18836-18841 18854 18856-18880 18882-18888 18899- 18903 18908-18910 18915-18921 18934-18935 18941 18955-18959 18964-18969 18975-18977 18983-18985 19000 19019-19024 19029-19035 19062-19065 19071-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19085 19106-19118 19134-19137 19153-19158 19211- 19212 19253 19257 19260-19262 19266-19267 19283- 19294 19316-19317 19345-19349 19351-19354 19362 19370 19380-19384 19387-19402 19413-19417 19422- 19431 19442-19445 19461 19503 19514-19521 19560- 19562 19566 19604-19607 19627 19672-19687 19693 19698-19699 19733-19742 19749-19751 19759-19763 19768-19771 19810-19818 19915-19918 19921-19929 19938-19939 19943-19946 19953-19957 19965-19968 19972-19980 20029-20063 20072-20073 20087-20094 20099-20102 20104-20112 20120 20122-20127 20146- 20148 20161-20164 20182-20188 20208-20214 20222- 20225 20235-20240 20244-20249 20253 20257-20262 20265-20270 20289 20299 20308-20315 20328-20330 20345-20354 20393-20400 20411-20440 20456-20468 20472-20474 20476-20479 20482-20494 20497-20498 20510 20524-20536 20542-20545 20568-20578 20599- 20606 20614-20619 20621-20624 20629-20634 20644- 20645 20649-20652 20676-20680 20683-20685 20688 20698-20707 20714-20725 20727-20734 20752 20767- 20787 20806-20812 20822-20823 20836-20849 20855- 20862 20865-20867 20881-20884 20897-20900 20922- 20925 20938-20942 20948-20949 20952-20954 20963- 20976 20985-20988 21005-21008 21058-21059 21062- 21066 21072-21075 21112-21114 21141-21142 21145- 21148 21176-21180 21202-21207 21225-21226 21233- 21235 21237-21274 21277-21280 21284-21296 21343- 21352 21377-21397 21408-21409 21434-21445 21447- 21450 21463-21469 21485-21491 21495-21500 21516- 21530 21532-21533 21554-21556 21587-21655 21729- 21733 21744-21747 21892-21894 21915-21916 21955- 21961 21967-21968 21973-21974 21978-21982 22007- 22015 22040-22041 22060-22061 22092-22094 22141- 22143 22160-22164 22187-22192 22195-22198 22208- 22224 22251-22255 22261-22276 22284-22289 22292- 22302 22310-22322 22336-22348 22358-22359 22365- 22371 22373 22377-22380 22383-22388 22399-22404 22409-22410 22440-22448 22455-22465 22531-22539 22571-22581 22618-22621 22634-22651 22663-22664 22669-22670 22675-22679 22690 22696-22697 22700- 22701 22703-22707 22728-22729 22736 22749-22762 22768-22770 22794-22796 22805-22809 22835-22845 22850-22851 22857-22858 22881-22886 22909-22910 22925-22926 22951 22955-22957 22969-22970 22974- 22976 22990-22994 23007-23021 23046-23050 23053- 23055 23057-23058 23063-23067 23070-23071 23074- 23076 23098-23101 23138-23140 23206-23209 23218- 23222 23229-23233 23251 23261-23262 23343-23344 23379-23390 23400-23408 23433 23439-23450 23470- 23474 23486 23489-23490 23492-23493 23495-23496 23506-23511 23514-23518 23526-23531 23543-23544 23599 23675-23681 23705-23708 23718-23721 23726- 23730 23761 23771-23780 23798-23799 23802-23805 23827-23835 23843-23844 23871-23875 23890-23892 24014-24018 24116 24126-24144 24495-24498 25085-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			25090 25323-25325 25331-25335 25340-25341 25368- 25373 25383-25401 25410-25413 25705-25715 26024- 26028 26205-26206 26235-26239 26262-26264 26280 26316-26321 26326-26328 26332-26337 26341-26344 26350-26352 26373-26374 26411 26455-26459 26469- 26470 26479-26545 26547-26555 26596-26601 26657- 26659 26665-26666 26684 26737 26748-26756 26782- 26785 26788-26789 26796-26801 26831 26835 26842- 26843 26853-26854 26858-26862 26873-26875 26879 26882-26884 26980-26984 26988 27025-27027 27052 27067-27070 27080-27090 27093-27097 27142-27146 27150-27151 27193-27200 27218 27245-27251 27254- 27260 27269-27270 27279 27283-27287 27299-27301 27304-27305 27348-27353 27435-27436 27444 27498- 27503 27510-27511 27544-27545 27562-27563 27570- 27573 27578-27584 27586-27587 27600-27606 27636- 27639 27649-27654 27755-27756 27784-27788 27819- 27820 27825-27826 27861-27864 27890-27892 27896- 27927 27943-27947 27989-27990 28001-28003 28012- 28017 28045-28047 28050-28059 28105-28107 28142- 28145 28204-28209 28286 28360-28364 28424 28426- 28428 28458-28460 28463 28468-28484 28728-28731 29278-29283 29296-29300 29321-29326 29328-29337 29339-29340 29358 29367 29432-29435 29718-29721 29746-29761 29872-29875 29940-29949 29960-29961 30141-30142 30150-30156 30189-30199 30240-30250 30361-30368
bone marrow	Clontech	BMD002	51-52 167 273-278 360-361 534-535 546-547 553-554 582-584 1044-1045 1136-1139 1158-1161 1307 1317 1436-1437 1593-1594 1602-1603 1622-1623 1667-1668 1681-1687 1692-1693 1705-1714 1923-1924 1990 2030 2058 2209-2210 2277 2396-2400 2471-2474 2814-2815 2889-2891 2893-2894 2988-2989 3105-3106 3161-3163 3435-3440 3550-3554 3768-3769 3781-3784 3834-3835 3903-3907 3939-3941 4086-4090 4124-4126 4160-4162 4509-4511 4555-4556 4562-4568 4581-4582 4623-4639 4668-4672 4785-4789 4795-4809 4852-4853 4967-4968 5181-5183 5295-5310 5572-5573 5856-5858 5973-5975 6126-6134 6331-6334 6403-6404 6442-6444 6450-6451 6533-6535 6780 6782-6786 6832-6850 6852 6877-6878 6941-6942 7192-7193 7207 7209-7212 7216-7219 7245- 7248 7256-7257 7368-7369 7426-7442 7450-7451 7654- 7655 7695-7696 7745-7746 7805-7808 7972-7975 8101- 8104 8142-8144 8187-8200 8206-8210 8227-8229 8371- 8374 8383-8389 8453-8454 8497-8499 8504-8505 8512- 8513 8539-8542 8588-8597 8612-8616 8688 8698-8709 8724-8732 8777-8779 8917-8918 8946-8973 8997 9002- 9004 9063-9067 9264-9265 9321-9323 9399-9405 9443 9451-9453 9517-9518 9529-9530 9555-9557 9594-9604 9611-9612 9667 9757-9758 9782-9783 9794-9795 9826 9828 9835-9840 9848-9850 9909-9912 9929-9935 9981- 9988 10164-10166 10480-10482 10498-10503 10513- 10515 10551-10554 11123-11124 11202-11203 11314- 11315 11533-11534 11538-11540 11731-11734 11757- 11758 11803-11804 11842 11947-11950 12023-12026



Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			12050-12056 12140 12202-12205 12245-12253 12258 12309-12311 12362 12374-12377 12560-12561 12615- 12618 12637 12676-12678 12701-12705 12782-12787 12796-12798 12871-12881 12894-12897 12997-12999 13528 13592-13595 13627-13628 13885-13887 13925- 13926 14137-14138 14261-14263 14546-14549 14604 14626 14714-14717 14784 14809-14813 14822-14838 15151-15157 15182-15183 15290-15291 15329-15331 15336-15340 15356-15357 15412-15414 15631-15642 15652-15656 15855-15857 15878 15906-15907 16053- 16058 16403-16407 16422-16429 16443-16445 16473- 16478 16600 16636-16637 16642 16652-16655 16894- 16896 17046-17057 17105-17106 17120-17122 17397 17399-17400 17940-17942 18136-18138 18286-18288 18403 18405-18406 18500-18501 18527 18579-18581 18757-18758 18767-18769 18771-18772 18777-18780 18802-18804 18899-18903 18934-18939 18964-18969 19018 19059-19065 19074-19080 19106-19118 19156- 19158 19211-19212 19221-19222 19228-19229 19254- 19255 19260-19262 19283-19294 19351-19354 19362 19370 19373-19374 19380-19384 19390-19394 19401- 19402 19418-19431 19442-19444 19461 19512-19513 19515-19521 19672-19673 19679-19682 19693 19698- 19699 19733-19735 19743-19751 19800-19803 19813 19819-19822 19919-19923 19938-19942 19958-19963 19972-19980 20015-20017 20029-20043 20074-20079 20087-20094 20120 20146-20148 20167-20171 20195- 20197 20208-20214 20222-20225 20241 20253 20257- 20262 20265-20270 20290-20296 20425-20426 20432- 20446 20476-20479 20485-20494 20497-20498 20502- 20503 20524-20536 20563-20567 20599-20606 20620 20631-20634 20653-20665 20727-20732 20788 20816- 20818 20853-20854 20858-20862 20897-20900 20938- 20942 20948-20949 20952-20954 20977-20984 21058- 21059 21122-21127 21141-21142 21145-21148 21157- 21169 21197-21198 21202-21207 21216-21232 21236- 21247 21277-21280 21284-21294 21398-21402 21408- 21409 21463-21465 21480-21482 21485-21494 21647- 21655 21729-21733 21744-21747 21892-21898 21917- 21921 21948-21954 21978-21987 22026-22029 22070- 22073 22089 22092-22094 22120-22127 22141-22143 22171-22175 22208-22224 22292-22299 22310-22311 22319-22322 22336-22346 22358-22359 22440-22448 22644-22651 22663-22664 22678-22679 22690 22838- 22842 22846-22849 22899-22900 23047-23050 23064- 23065 23070-23071 23074-23076 23085-23086 23252- 23256 23382-23385 23415-23418 23433 23473-23474 23510-23511 23543-23544 23555-23565 23720-23721 23761 23793-23797 23802-23805 23827-23833 23903- 23904 25307-25310 25323-25325 25410-25413 26024- 26028 26196-26199 26266 26280 26285-26290 26310- 26314 26341-26344 26373-26374 26595 26744-26745 26832 26843 26879 26888-26890 27100-27102 27127- 27128 27142-27146 27193-27200 27206 27209-27213 27216-27218 27294 27476-27477 27498-27500 27544-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27545 27562-27563 27636-27639 27649-27656 27814-27815 27848-27852 27861-27864 28050-28059 28358-28360 28424 28426-28428 29117-29123 29246 29271-29283 29309-29314 29339-29340 29354-29357 29367 29378-29379 29445 30150-30156
bone marrow	Clontech	BMD004	656 1048 5335-5336 8768-8770 9956-9957 12872-12881 15290-15291 18673-18677 18719-18722 19156-19158 21978 22669-22670 23046 25373 26843 27193-27200 27218 27790-27796 27989-27990 28199-28203 28286
bone marrow	Clontech	BMD007	373-374 4174 4362-4365 8320-8322 9531 15908-15909 16044-16046 16652 17160-17167 18771-18772 19749-19751 19814-19815 20698-20707 22310-22311 23070 25370-25372 26266 27702-27706
Adult colon	Invitrogen	CLN001	170-171 398-399 700-701 723-725 1004 1235-1237 1273-1279 1608-1610 1667-1668 1961-1962 2439 2471-2474 2599-2603 2687-2706 3306-3308 3606 3735-3736 3789-3794 3949-3953 4213-4214 4221-4238 4515-4516 4666 7216-7219 7258-7263 7536-7541 7742-7743 8046 8074-8078 8297-8300 8323-8325 8342 8420-8421 8430-8433 8497-8499 8512-8513 8917-8918 9343-9346 9391-9392 9475-9476 9506-9509 9531 9688 9735-9738 9828 10148-10160 10263-10264 10311 10506-10507 10531-10532 10904-10905 11467 11473-11474 11544-11545 11612-11639 12006-12010 12150-12151 12435 12723 12725-12727 12872-12881 12943 13540-13542 13581-13583 14137-14138 14277-14280 14546-14549 14604 14784 15093-15095 15257 15406-15407 15530-15531 15855-15857 16345-16349 16558-16562 16570-16573 16602-16608 16995 17105-17106 17335-17339 17394-17395 17958-17962 18269-18270 18412-18418 18495-18499 18719-18722 18778-18780 18796 18925-18933 19045-19048 19134 19283-19294 19316-19317 19368-19369 19390-19402 19566 19683-19687 19736-19742 19759-19763 19926-19929 19933-19937 19972-19980 20103 20106-20120 20161-20164 20189-20194 20200-20207 20231-20234 20300-20304 20321-20324 20328-20330 20336-20338 20393-20400 20480-20481 20485-20490 20501 20524-20535 20676-20680 20806-20812 20819-20823 20865 20890-20896 20963-20972 21208-21210 21225-21226 21256-21262 21284-21294 21334 21377-21397 21428-21433 21447-21450 21516-21528 21877-21880 21955-21957 22003-22015 22026-22034 22204-22211 22250 22343-22346 22358-22359 22405-22408 22551-22552 22700-22701 22810-22818 22838-22842 22952-22953 23053-23055 23070 23074-23076 23212-23215 23358-23360 23415-23418 23827-23833 24005-24011 26307-26309 26327 26337 26341-26344 26359-26365 26373-26374 26421-26422 26858-26859 27100-27102 27156-27157 27304-27305 27640-27641 27812-27815 28186 28255-28261 28269 28468-28484 30141-30142
Mixture of 16 tissues – mRNAs*	Various Vendors*	CTL016	373-374 847-848 4581-4582 7465-7466 7745-7746 9267-9268 13638-13641 14344-14345 15277-15278 15356-15357 18825-18828 19049-19053 19306-19307 19370 19706-19708 20263-20264 20345-20348 20425-20426

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			20712-20713 20792-20797 22343-22346 22881-22886 26409-26410 27989-27990
Mixture of 16 tissues — mRNAs*	Various Vendors*	CTL021	1667-1668 4206-4208 4562-4568 5335-5336 5370 5919- 5921 7256-7257 8434-8448 9984-9985 10588-10591 10870-10872 10965 12149 12714-12715 15126-15129 15530-15531 15543-15544 15576-15577 16652 16894- 16896 18371-18372 18516-18518 19049-19053 19211- 19212 19283-19294 19401-19402 19422-19431 19706- 19708 19736-19742 19749-19751 19813 20289 21155- 21156 21208-21210 22101-22107 22309 22358-22359 22373 22632-22633 22690 23074-23076 27544-27545 27593-27594 27989-27990 29332-29337 30135-30140
adult cervix	BioChain	CVX001	30 48-49 51-52 144-145 156 180-181 201 221 255-256 301 329-330 332 395 419-420 425-427 515-517 524-525 530-531 543-547 551-552 694-695 716-720 738-740 832- 836 901-904 934-935 1001-1003 1047 1185-1187 1259- 1265 1273-1279 1302-1303 1424-1429 1431 1453-1454 1456-1460 1474 1483 1499-1502 1563-1564 1596 1667- 1668 1705-1714 1800 1866-1872 1887-1889 1899-1900 2015-2018 2036 2062 2220-2227 2275-2276 2307 2375 2404-2406 2431 2471-2474 2516 2540-2541 2599-2603 2626-2642 2644-2651 2653-2658 2661-2673 2692-2694 2710 2802 2921-2930 2951-2955 2988-2989 3001 3090 3205-3207 3245-3246 3268-3269 3290-3303 3421-3422 3455-3456 3466 3507-3510 3512-3520 3526-3529 3531- 3534 3555-3558 3661-3670 3705-3706 3763-3765 3817 3949-3953 4122-4123 4160-4162 4221-4238 4469-4470 4599-4601 4663-4665 4692-4694 4762-4763 4785-4789 4795-4809 4819-4823 4957 5084-5085 5092-5094 5109- 5115 5124-5126 5133 5335-5336 5364 5483-5484 5581- 5583 5654 5766-5767 5932-5936 5973-5975 5980-5984 5997-6000 6011-6021 6284 6371-6376 6403-6404 6484 6486-6489 6624-6626 6779 6877-6881 6932-6938 6980 7192-7193 7209-7212 7216-7219 7279-7282 7294-7295 7350-7352 7534-7550 7576-7577 7601-7603 7609 7640- 7642 7671-7673 7678-7689 7693-7694 7701-7703 7728 7742-7743 7747-7751 7771 7778-7783 7787-7788 7794- 7801 7890 7924-7925 7976 7988 8020 8025-8026 8070 8084-8085 8115-8121 8132-8141 8145-8156 8184-8186 8258-8262 8270-8276 8313-8314 8342 8347-8360 8368- 8370 8383-8389 8415 8422-8425 8430-8433 8466-8476 8504-8506 8543-8550 8688 8751-8753 8758-8759 8869 8917-8933 8982-8983 8986-8991 9021 9029-9035 9037 9072-9074 9196-9200 9305 9321-9323 9337-9338 9391- 9392 9427-9428 9444 9456-9458 9487-9488 9506-9509 9522-9525 9531-9534 9617-9626 9684-9687 9709 9729- 9731 9763-9767 9794-9795 9815-9820 9826 9828 9854- 9856 9899-9901 9916-9920 9923-9924 9958-9961 9969- 9980 9989-9992 9997-10009 10017-10019 10038-10040 10175-10196 10273-10274 10277 10306 10451-10453 10484-10489 10498-10503 10508-10515 10523-10532 10539-10542 10588-10594 10873-10875 10877-10878 10886-10889 10901-10902 10979 11013-11017 11028- 11031 11147-11156 11217-11219 11252-11273 11300- 11303 11317 11345-11350 11423-11426 11431-11432

Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			11468-11472 11476-11478 11505-11506 11538-11540 11544-11546 11553-11554 11584-11585 11609 11715- 11716 11731-11734 11749-11750 11761-11763 11777- 11778 11803-11804 11835-11836 11842 11873-11875 11886-11889 11921-11930 12011-12013 12042-12044 12121-12126 12206-12208 12215-12225 12280-12282 12371-12377 12420-12429 12470-12471 12519-12540 12555-12559 12564 12593-12596 12598 12601-12602 12606-12609 12640 12668-12669 12682-12683 12707- 12711 12720-12723 12760-12762 12785-12787 12805- 12806 12829-12830 12832-12834 12905 12943 12978- 12981 12984-12985 13077-13079 13560-13562 13584 13592-13595 13606-13608 13645-13651 13761-13795 13954-13956 14023-14026 14058-14059 14192-14195 14261-14263 14304-14305 14546-14549 14575-14604 14628-14635 14645-14648 14684-14685 14702-14704 14784 14789-14791 14866-14870 15025-15069 15182- 15183 15190-15191 15243-15248 15292-15293 15326- 15328 15406-15407 15486-15490 15545-15546 15588- 15589 15699-15700 15855-15857 15863-15868 15880- 15883 15961-15963 15988-15990 16110-16112 16141- 16143 16145-16146 16226-16227 16299-16300 16484- 16486 16494-16495 16508-16511 16542-16544 16579- 16582 16609-16611 16636-16637 16643-16648 16652 16686-16693 16828-16831 16851-16853 16899-16900 16934-16937 16993-16994 17038-17041 17046-17057 17268-17274 17330-17332 17335-17339 17366-17368 17441-17450 17454-17456 17525-17527 17924-17926 17958-17963 18007 18015-18016 18029-18030 18069- 18072 18136-18138 18400-18402 18412-18420 18423- 18425 18533-18534 18587-18616 18644-18650 18680- 18681 18691-18692 18750-18756 18759-18760 18767- 18769 18771-18776 18789 18802-18804 18806-18807 18811-18813 18825-18834 18836-18838 18842-18845 18854 18857-18880 18894-18896 18899-18903 18910 18915-18918 18923-18933 18936-18939 18941 18944- 18945 18947-18950 18960-18969 18975 18989-18990 19029-19035 19045-19048 19059-19065 19068-19080 19084-19085 19090 19096-19101 19106-19118 19142- 19147 19154-19155 19159 19209-19210 19225 19273- 19274 19306-19307 19362 19370 19373-19379 19387- 19394 19401-19402 19415-19417 19422-19434 19441- 19444 19454-19455 19458-19461 19484-19486 19488- 19493 19515-19521 19526-19531 19580-19582 19604- 19607 19656-19657 19667-19668 19683-19687 19693- 19698 19727-19735 19749-19751 19756 19759-19767 19804-19815 19921-19925 19933-19939 19953-19957 19962-19963 19965-19967 19969-19971 19981 19995- 20017 20029-20043 20048-20052 20064-20065 20069- 20073 20080-20098 20106-20112 20120 20130 20151- 20154 20161-20164 20167-20179 20182-20188 20200- 20214 20231-20241 20243-20249 20253 20257-20264 20279-20280 20288 20299-20307 20328-20330 20345- 20354 20393-20407 20411 20415-20420 20427-20431 20441-20446 20452-20455 20469-20479 20514-20520

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			20524-20545 20559-20562 20569-20578 20621-20624 20649-20665 20676-20681 20683-20685 20688 20698- 20707 20718-20734 20753 20758-20766 20792-20812 20819-20821 20836-20843 20858-20862 20871 20897- 20900 20922-20926 20929-20932 20938-20943 20948- 20949 20963-20984 20992-20994 20999-21004 21021- 21023 21026 21062-21066 21069-21087 21101-21104 21122-21127 21141-21142 21145-21151 21171-21174 21194-21196 21213-21215 21227-21232 21263-21280 21284-21294 21297-21298 21351-21352 21410-21414 21428-21433 21446 21463-21465 21467-21469 21480- 21482 21485-21500 21647-21655 21891-21894 21917- 21921 21925-21928 21939 21955-21957 21967-21968 21971-21978 22000-22002 22007-22015 22020-22025 22030-22034 22040-22041 22050-22055 22074-22076 22090-22091 22135-22138 22152-22156 22160 22165- 22168 22176-22184 22187-22192 22195-22198 22208- 22211 22218-22224 22261-22289 22292-22302 22310- 22311 22318 22333-22342 22347-22350 22357-22359 22365-22371 22373 22405-22410 22495 22534-22539 22553-22560 22569 22607-22609 22622-22624 22634- 22643 22653-22654 22690 22700-22701 22737-22739 22741-22742 22750-22759 22768-22770 22794-22796 22810-22816 22833-22834 22843-22845 22854-22856 22904-22906 22952-22953 22955-22957 22969-22970 22978-22979 22991-22994 23007-23021 23046 23053- 23055 23059-23060 23064-23067 23071 23080-23083 23117-23119 23125-23136 23141 23206-23209 23212- 23215 23242-23244 23251-23256 23329-23337 23356- 23357 23364-23370 23382-23385 23402-23411 23415- 23418 23428-23430 23486-23487 23489-23490 23492- 23493 23515-23518 23532-23539 23543-23544 23555- 23565 23600-23624 23675-23681 23704 23726-23730 23761 23770 23806-23809 23820-23833 23836-23837 23839-23842 23867-23875 23878-23880 23990-23992 24021-24024 24035-24040 24042-24043 24126-24144 24147-24158 25085-25090 25334-25337 25347-25358 25376-25377 25383-25401 26024-26028 26209-26213 26225-26231 26252 26266 26270-26272 26285-26290 26294-26302 26316-26321 26327 26341-26344 26358 26431 26453 26460-26464 26469-26470 26596-26601 26676-26677 26687 26742 26748-26754 26788-26789 26819-26826 26842-26843 26853-26854 26873-26875 26980-26984 26988 27012-27014 27040-27043 27052 27067-27070 27100-27102 27173-27174 27177-27178 27193-27200 27269-27270 27348-27353 27478-27479 27510-27511 27520-27521 27544-27545 27557-27559 27600-27601 27635-27641 27662-27672 27729-27739 27755-27756 27781-27788 27790-27804 27861-27864 27890-27892 27940-27947 27970 27981-27982 27989- 27990 28008-28011 28045-28047 28095-28096 28099- 28100 28108-28121 28157-28158 28160 28199-28203 28255-28261 28286 28311-28313 28573-28578 28768- 28774 29117-29123 29278-29283 29321-29326 29354- 29357 29409-29416 29938-29949 29960-29963 30141-

Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			30142 30150-30156 30184-30199 30218-30220 30233-30235 30240-30242 30361-30368
diaphragm	BioChain	DIA002	5581-5583 7978-7983 8187-8200 8349-8350 9072-9074 9366-9368 11123-11124 11745-11748 16546 19800-19803 19972-19980 20130 20437-20440 20554-20557 20614-20615 20676-20680 22212-22217 23252-23256 25340-25341 25373 26876-26878
endothelial cells	Stratagene	EDT001	19-20 84 124-125 156 158-159 164 170-171 180-181 192 197-200 227-230 251-252 255-256 260 301 307-308 315-316 319-323 329-330 358-359 373-374 395 414-418 425-427 461-465 505 515-519 524-525 534-535 553-554 557-559 576-578 619-620 635 656 706-707 712 716-722 832-836 845-848 880-885 891 913 919-922 981-985 1004-1005 1044-1045 1047 1074-1087 1092-1098 1101-1103 1123-1127 1158-1161 1203-1204 1235-1237 1240-1241 1259-1266 1268-1289 1307 1310-1311 1334 1414-1417 1431 1453-1454 1467-1469 1483 1499 1569-1573 1618 1620 1667-1668 1678-1680 1705-1714 1721-1722 1778-1779 1792-1794 1910-1913 1925-1927 1967 1971-1974 1977 1986-1987 2015-2018 2022 2072 2202-2203 2272-2276 2306 2404-2406 2409 2432-2435 2471-2474 2570-2574 2597-2603 2625 2724-2726 2886-2887 2903-2904 2923-2924 2926 2934-2935 2939-2943 2975-2977 2983-2986 3001 3006-3008 3078-3079 3090 3107-3108 3115 3226-3228 3241 3255-3259 3266 3276-3277 3304-3309 3336-3337 3365 3374-3377 3421-3422 3433 3448-3450 3455-3456 3464-3465 3477-3478 3504-3507 3518-3520 3525 3555-3558 3606 3624 3686 3693 3781-3784 3789-3794 3834-3835 3949-3953 4067-4072 4080-4082 4084-4085 4122-4123 4160-4162 4213-4214 4244-4247 4343-4346 4450 4469-4482 4486-4488 4526-4527 4542 4555-4556 4562-4573 4581-4582 4600-4601 4612-4614 4651 4785-4789 4857-4861 4966-4968 4971-4974 5089-5090 5092-5094 5192 5335-5336 5384-5386 5572-5573 5580-5583 5594-5602 5658 5700 5714-5716 5802-5812 5820-5823 5880 5885-5897 5907-5909 5939-5941 5980-5984 5986-5988 6140-6143 6166-6168 6186-6189 6301 6342-6343 6403-6405 6551-6567 6585-6592 6627-6628 6657-6661 6669-6670 6791-6794 6832-6850 6852 6932-6938 7056-7057 7209-7212 7216-7219 7285-7295 7374 7415-7420 7447-7449 7536-7541 7557-7559 7580-7597 7601-7605 7609 7615-7617 7620-7621 7630-7636 7643-7647 7654-7655 7657-7665 7671-7673 7681-7687 7693-7696 7701-7703 7729 7742-7743 7745-7751 7784-7786 7794-7797 7821 7890 7906-7912 7921-7925 7946-7948 7972-7975 7978-7983 7990-7992 7994 8002 8010-8012 8017-8019 8043-8044 8070 8090-8093 8117-8121 8152-8159 8163-8173 8182-8183 8187-8200 8211-8213 8216-8220 8227-8229 8234 8247-8248 8253-8257 8342 8347-8360 8363-8364 8368-8370 8415 8449-8452 8497-8499 8504-8505 8507-8509 8512-8513 8539-8542 8554-8555 8584-8587 8607-8609 8688-8690 8754-8757 8760-8761 8777-8779 8936-8938 8986-8991 9002-9004 9013-9020 9038-9045 9072-9074 9084-9085 9196-9200 9260-9263 9306-9311 9316 9321-9323 9331-9333 9337-9338 9382 9391-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9392 9445-9448 9454-9455 9475-9476 9478-9481 9487-9490 9522-9525 9531-9534 9546-9549 9558 9561-9566 9586-9589 9617-9626 9659 9664-9665 9672 9682-9683 9729-9731 9735-9742 9757-9758 9763-9767 9794-9795 9815-9820 9826 9828-9834 9851-9852 9854-9855 9896-9897 9902-9904 9923-9924 9927-9928 9953 9960-9964 9993-9996 10033-10040 10167-10196 10273-10274 10277 10281-10304 10306 10326-10328 10451-10453 10480-10482 10508-10515 10537-10538 10595-10599 10603-10608 10612-10623 10627 10638-10639 10881-10883 10901-10902 10913-10918 10936-10938 10963-10965 11035-11037 11123-11124 11135 11143 11217-11219 11295-11305 11314-11315 11339-11350 11359-11369 11372-11396 11405-11407 11431-11432 11434 11465-11466 11468-11474 11476-11478 11495-11498 11538-11540 11546 11579-11606 11609 11696 11711-11712 11715-11716 11731-11734 11737-11750 11780-11784 11786-11788 11803-11804 11835-11836 11840 11842 11873-11875 11901-11905 11941-11944 11947-11950 12002-12005 12050-12056 12112-12114 12121-12137 12150-12151 12173 12190-12191 12237-12238 12256-12257 12259-12262 12285-12302 12361 12374-12377 12398-12401 12446-12450 12470-12471 12477 12486-12540 12545-12546 12555-12559 12590-12592 12615-12618 12637 12640 12642-12644 12666-12667 12670 12707-12711 12714-12715 12723 12755-12762 12796-12798 12805-12806 12829-12830 12978-12981 12997-12999 13077-13079 13576-13579 13581-13583 13592-13597 13603-13608 13629-13631 13645-13651 13796-13797 13873-13875 13918-13919 13999-14003 14044-14045 14054-14056 14058-14059 14130-14131 14141-14142 14170-14172 14175-14181 14192-14195 14206 14216-14226 14236-14238 14261-14263 14299-14301 14346 14498-14501 14604 14607-14609 14681-14682 14684-14685 14714-14717 14784 14802-14808 14866-14870 15013-15024 15071-15074 15093-15095 15165-15170 15172-15173 15182-15183 15190-15191 15220 15222-15224 15233-15236 15243-15248 15250-15251 15257 15277-15278 15283-15286 15290-15291 15298-15303 15323-15324 15336-15340 15356-15357 15406-15407 15412-15414 15457-15459 15530-15535 15545-15546 15548-15550 15563-15564 15576-15577 15585 15588-15589 15614-15616 15699-15700 15855-15857 15869-15870 15880-15883 15890-15895 15988-15990 16044-16046 16059 16075-16079 16082 16096-16099 16103-16104 16110-16112 16141-16143 16168-16171 16174-16176 16237 16239 16371-16372 16388-16391 16422-16429 16461-16466 16479-16481 16501-16504 16508-16511 16536-16539 16545 16563-16573 16576-16577 16583-16585 16600-16601 16609-16611 16619-16621 16628-16637 16642-16648 16652 16675-16682 16702-16705 16771-16772 16804-16807 16833-16842 16851-16853 16873-16874 16894-16896 16934-16937 17070-17071 17114 17120-17122 17131-17132 17242 17284-17291 17297-17306 17330-17332 17335-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			17339-17398 17454-17456 17571-17574 17937-17938 17958-17962-17964-17968 18015-18016 18029-18030 18055-18060 18136-18138 18376-18377 18407-18418 18421-18425 18427-18429 18492-18494 18500-18501 18516-18518 18527 18533-18534 18536-18539 18617 18624-18637 18644-18650 18655-18658 18671-18677 18691-18693 18717-18726 18730-18732 18745-18756 18759-18761 18771-18780 18784-18789 18796-18807 18811-18813 18822-18828 18855-18880 18882-18888 18894-18896 18899-18907 18919-18921 18925-18939 18941 18946 18964-18969 18975-18977 18989-18990 18996 19012 19025-19035 19045-19048 19055 19057- 19065 19071-19083 19090 19134 19138-19140 19163- 19201 19207-19210 19213-19220 19224 19251-19252 19254-19257 19260-19263 19266-19267 19273 19295- 19296 19306-19307 19316-19317 19345-19349 19351- 19360 19362-19364 19368-19370 19373-19374 19380- 19389 19401-19402 19415-19417 19422-19434 19441- 19444 19458-19463 19484-19486 19503 19514-19521 19530-19531 19536 19560-19562 19566-19573 19586 19598-19601 19625 19656-19657 19659-19661 19667- 19668 19670-19671 19688 19693 19698-19699 19727- 19748 19759-19763 19772 19800-19803 19810-19815 19819-19822 19855-19856 19915-19918 19921-19929 19933-19946 19953-19961 19965-19967 19972-19981 20015-20017 20026-20027 20029-20047 20066-20068 20072-20079 20087-20094 20099-20102 20106-20110 20114-20120 20122-20127 20130 20133-20136 20146- 20154 20161-20164 20167-20179 20182-20194 20200- 20218 20222-20225 20235-20241 20250-20252 20257- 20262 20265-20270 20274-20278 20281-20282 20289 20328-20330 20345-20354 20360 20393-20400 20406- 20407 20414 20418-20426 20432-20451 20456-20474 20476-20479 20482-20494 20501 20505-20510 20521- 20535 20542-20545 20548-20557 20563-20567 20575- 20578 20614-20619 20625-20634 20644-20648 20653- 20671 20688-20692 20698-20707 20710-20711 20718- 20732 20752-20753 20758-20767 20788 20806-20821 20824-20843 20853-20863 20879-20880 20897-20900 20924-20925 20927-20928 20948-20949 20955-20962 20973-20988 21005-21008 21015 21026-21031 21060- 21066 21069-21071 21076-21087 21101-21104 21122- 21127 21137-21140 21145-21151 21171-21174 21176- 21180 21197-21198 21202-21207 21225-21226 21233- 21235 21241-21247 21256-21274 21277-21280 21284- 21298 21301-21303 21351-21354 21359-21360 21377- 21397 21434-21450 21467-21469 21480-21482 21495- 21500 21516-21530 21647-21655 21718-21724 21729- 21733 21877-21880 21892-21894 21911-21912 21915- 21921 21924 21939 21951-21966 21978-21987 22000- 22006 22019-22025 22040-22044 22047 22060-22076 22080-22083 22092-22094 22117-22119 22128-22138 22141-22143 22160-22164 22169-22170 22187-22192 22195-22198 22200-22203 22208-22211 22225-22226 22251-22252 22265-22289 22292-22299 22309 22314-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22317 22319-22332 22336-22342 22349-22350 22358- 22359 22365-22371 22373 22377-22380 22383-22388 22434-22435 22455-22465 22495 22531-22539 22553- 22558 22571-22581 22607-22609 22622-22624 22634- 22636 22644-22651 22653-22654 22663-22667 22678- 22679 22690 22700-22701 22703-22706 22726-22727 22730-22731 22750-22762 22768-22770 22781-22782 22794-22796 22810-22816 22821-22822 22852-22856 22870-22874 22904-22906 22909-22911 22925-22938 22948-22953 22955-22961 22974-22976 22978-22979 22991-22994 23007-23021 23046-23052 23057-23060 23063-23067 23070-23071 23084 23098-23101 23112- 23116 23120-23136 23138-23141 23201-23202 23218- 23222 23237-23241 23251-23256 23258-23263 23279- 23281 23338 23343-23344 23358-23360 23379-23390 23415-23418 23448-23450 23470-23472 23475-23479 23486-23487 23489-23490 23492-23493 23499-23505 23508-23511 23526-23531 23555-23565 23673-23674 23700-23701 23704 23718-23719 23726-23736 23760- 23761 23765-23767 23771-23780 23793-23799 23806- 23809 23827-23833 23839-23848 23882 23890-23892 23941-23956 23959 23990-23992 23999-24001 24014- 24018 24025 24029-24033 24035-24040 24056 24120- 24129 24772-24774 25085-25090 25213-25219 25293- 25297 25307-25308 25319-25321 25334-25335 25338- 25341 25355-25358 25370-25375 25416-25417 25534- 25536 26024-26028 26196-26199 26205-26206 26237- 26239 26248-26252 26266 26273-26279 26285-26290 26316-26321 26327 26329 26337 26339-26340 26361- 26365 26373-26374 26409-26411 26460-26463 26469- 26470 26559-26560 26596-26601 26678-26680 26719- 26726 26742 26746 26748-26756 26804-26806 26843 26853-26857 26860-26862 26876-26879 26980-26984 27035 27040-27043 27052 27067-27070 27074-27077 27122-27126 27133-27134 27150-27151 27173-27174 27193-27202 27206-27213 27218 27240-27251 27254- 27265 27269-27270 27273-27274 27281-27287 27304- 27305 27372-27375 27439-27440 27493-27495 27501- 27507 27510-27511 27520-27521 27544-27545 27548- 27549 27574-27584 27586-27587 27600-27606 27636- 27641 27649-27654 27662-27672 27698-27706 27726- 27739 27755-27756 27814-27818 27861-27864 27890- 27892 27896-27927 27948-27969 27989-27990 28045- 28047 28050-28059 28095-28096 28099-28100 28105- 28107 28138-28140 28142-28156 28186 28263-28268 28286 28290-28292 28311-28313 28315-28316 28361- 28362 28424 28426-28428 28468-28484 28573-28578 28732-28742 29117-29123 29278-29283 29304-29314 29317-29320 29328-29337 29339-29340 29358 29406- 29416 29418-29419 29432-29435 29614-29620 29718- 29721 29950-29953 29960-29961 30141-30142 30150- 30156 30205 30221-30223 30361-30368
Genomic clones from the	Genomic DNA from	EPM001	880-882 1142-1152 3281-3282 4007-4052 4177 4180- 4190 4899-4907 4911-4917 4921-4922 4928 4945 4997- 5023 5031-5035 5037 5042-5046 5202-5239 5241 5361

Tissu origin	RNA Source	Library Name	SEQ ID NOS:
short arm of chromoso me 8	Genetic Research		6796-6800 7019 7026 7028-7029 7031-7035 7041-7055 7058-7091 7094-7099 7173 7175-7177 7371-7372 7374 7392-7395 7407-7414 7421-7425 7444-7445 7469-7472 7475 8466-8476 8710-8715 8800-8813 8820-8841 8850- 8853 8855-8859 8862-8868 8877-8902 9047-9048 9081- 9085 9088-9099 9145-9149 9152-9181 9193 9205-9208 9213-9229 9231-9234 9239-9259 9269-9276 9291-9299 9314-9315 9962-9964 10320-10325 10329-10331 10334- 10342 10443-10444 10679-10683 10723-10724 10726- 10741 10748-10750 10755-10757 10759-10765 10775- 10777 10822-10830 10834-10867 10879-10880 11058- 11062 11416-11418 11890-11891 12218-12220 13000- 13004 13127-13128 13130-13136 13142-13174 13176- 13190 13307-13311 13316-13318 13324-13337 13425- 13495 13677 13681-13682 13695-13698 13706-13707 13712-13721 13723-13727 13730-13751 13815-13821 13823 13831 13854-13860 14876-14877 14962-14977 15120-15123 15593-15599 15705-15708 15710 15718- 15741 15773-15774 15780-15788 15815-15817 15826 15828-15831 15836-15837 15842-15845 15915-15916 15939-15943 15946-15956 15964-15976 15978-15980 15991-15996 16001-16018 16047-16052 16258-16268 17232 17366-17368 17579 17593-17598 17602-17609 17637-17667 17673-17684 17688-17700 17703-17707 17722-17724 17734-17789 17791-17799 17805-17806 17818-17824 17828-17829 17836-17849 17857-17861 17864-17868 17871-17873 17876-17879 17881-17885 17888-17894 17902-17904 17909-17916 18008-18012 18024-18028 18066-18068 18075-18089 18139-18151 18155-18156 18161-18162 18166-18168 18186-18187 18197-18203 18207-18214 18216-18218 18226 18230- 18239 18242-18245 18247-18253 18255-18263 18275- 18277 18286-18288 18291-18294 18308-18329 18335- 18349 18353-18359 18365-18370 18380-18392 18398 21304-21325 21501-21515 21534-21553 21557-21563 21568-21646 21656-21711 21718-21724 21728 21738- 21743 21748-21751 21788-21799 21863-21876 22523- 22533 22582-22588 22596-22602 22605-22606 22610- 22617 22658-22660 22817-22818 23029-23045 23532- 23539 23993-23998 24183-24196 24199-24225 24227- 24268 24274-24312 24319-24324 24333-24387 24397- 24470 24473-24490 24607-24631 24646-24665 24681- 24702 24722-24770 24775-24816 24820-24862 24869- 24923 24925-24951 24964-24977 24985-25060 25093- 25111 25114-25146 25158-25170 25178-25212 25220- 25224 25228-25246 25249-25253 25359-25363 25366- 25367 25450-25470 25475-25494 25506-25514 25539- 25561 25572-25593 25598-25603 25633-25656 25660- 25679 25690-25800 25807-25847 25853-25875 25878- 25880 25883-25896 25906-25951 25957-25965 25969- 26018 26050-26053 26077-26086 26090-26120 26127- 26129 26133-26143 26157-26184 26189-26194 26219- 26220 26237-26239 26629-26655 26691-26694 27677- 27688 27714-27717 27809-27811 28352-28357 28489- 28510 28514-28548 28556-28572 28579-28627 28635-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			28719 28732-28799 28809-28824 28831-28836 28841-28896 28901-28958 28964-28972 29012-29038 29047-29049 29071-29081 29087-29101 29104-29107 29116 29128-29141 29147-29151 29154-29156 29159-29168 29179-29186 29221-29241 29290-29295 29327 29368-29369 29420-29425 29446-29450 29461 29466 29468-29472 29486-29487 29492-29498 29501-29546 29551-29568 29583-29604 29606-29610 29614-29629 29631-29637 29645-29654 29660-29678 29686-29703 29708-29714 29722-29739 29741-29742 29746-29836 29842-29871 29876 29879-29911 29919-29935 29964-29968 29980-29981 29986-29994 29998-30001 30022-30031 30036-30064 30084-30100 30109-30134 30167-30177 30179-30182 30236-30239 30253-30278 30281-30295 30297-30300 30310-30317 30321-30327 30330-30337 30342-30347 30352-30360
Genomic clones from the short arm of chromosome 8	Genomic DNA from Genetic Research	EPM003	1604-1607 4008-4036 4049-4051 4180-4190 4923-4928 5242 5326-5330 7067-7087 7093 7175-7177 7426-7442 7475 8807-8813 8822-8835 8839-8846 8850-8853 8855-8858 8862 8870-8873 8876 8892-8898 9088-9099 9152-9181 9205-9208 9226-9229 9239-9257 9259 9294-9296 9301-9304 10343 10347-10350 10443-10444 10726-10727 10759-10764 10775-10777 10842-10867 13000-13004 13307-13308 13341 13422-13423 13425-13495 13730-13735 13737-13750 13823 14981-14983 15110-15111 15120-15123 15718-15725 15815-15817 15827-15833 15939-15943 15966-15968 15991-15996 16016-16018 17606-17608 17701 17836 17857-17874 17876-17887 17891-17894 18097-18134 18145-18151 18155-18156 18184 18255-18263 18291-18292 18335-18340 18354 21549-21553 21573-21586 21660-21711 21728 21788-21799 21863-21876 22525-22530 22596-22598 22605-22606 22658-22660 24187-24193 24227 24358-24369 24436-24438 24473-24480 24607-24609 24722-24726 24749-24771 24795-24816 24869-24870 24908-24923 24963 25017-25048 25052-25060 25078-25084 25091-25100 25114-25139 25147-25170 25187-25192 25247-25248 25359-25363 25461-25470 25489-25494 25515-25521 25539-25550 25572-25593 25623 25633-25650 25676-25679 25728-25732 25741-25782 25883-25889 25901-25902 25906-25911 25957-25959 25969-26016 26059-26067 26136-26138 26150-26152 26157-26164 26629-26653 27943-27947 28522-28524 28533-28539 28571 28607-28614 28646-28650 28709-28719 28748 28754-28760 28768-28781 28809-28814 28822-28824 28882-28887 28914-28916 28933-28935 29012 29031-29038 29071-29082 29087-29095 29104-29107 29116-29141 29154-29158 29327 29446-29450 29492-29494 29590-29605 29614-29620 29630 29645-29654 29663-29678 29686-29703 29741-29742 29763-29836 29842-29869 29879 29902-29911 29964-29968 30002-30003 30048-30052 30084-30093 30118-30134 30145-30149 30167-30177 30179-30182 30201-30204 30236-30239 30254-30255 30275-30281 30343-30347
Genomic	Genomic	EPM004	3281-3282 4924-4928 4945 4997-5020 5043-5044 5243-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
clones from the short arm of chromosome 8	DNA from Genetic Research		5245 7061-7064 7067-7087 7167 7170-7177 7426-7442 7474-7475 8466-8476 8807-8813 8822-8838 8877-8902 9047-9048 9152-9181 9217-9225 9231-9233 9269-9286 9291-9293 9314-9315 10443-10444 10446-10448 10679-10683 10775-10777 10842-10867 13000-13004 13145 13177-13178 13189 13309-13311 13328-13330 13424-13495 13497-13498 13719-13721 13730-13736 13815-13818 13823 13854-13860 15834 15836-15837 15842-15846 15946-15950 15966-15968 16006-16018 17232 17585-17586 17650-17652 17674-17676 17748-17751 17763-17770 17850-17851 17888-17921 18075-18080 18097-18134 18139-18144 18161-18162 18264-18268 18275-18277 18286-18288 18300-18307 18323-18333 18353-18354 18361-18370 18404 19093-19095 21549-21553 21563 21573-21586 21661-21711 21728 21780-21876 22523-22530 22586-22588 22605-22606 23820-23826 23993-23998 24187-24193 24260-24268 24333-24340 24358-24369 24426-24435 24449-24470 24473-24480 24610-24614 24681-24693 24703-24715 24757-24770 24775-24779 24794-24801 24827-24837 24846-24854 24951 25005-25026 25052-25060 25096-25100 25112-25113 25158-25238 25247-25256 25450-25460 25471-25474 25515-25521 25539-25541 25551-25561 25673-25679 25690-25702 25716-25718 25737-25782 25796-25800 25807-25820 25836-25847 25853-25865 25901-25902 25986-26016 26077-26086 26090-26099 26116-26120 26216 26273-26279 26629-26653 27677-27688 28531-28532 28540-28547 28558-28564 28617-28627 28695-28698 28709-28727 28768-28781 28809-28821 28831-28836 28841-28847 28872-28874 28901-28909 28933-28935 28943 29031-29038 29159-29170 29179-29197 29203 29221-29233 29290-29295 29420-29425 29481-29485 29488-29491 29508-29518 29529-29534 29551-29563 29587-29589 29631-29637 29763-29836 29842-29869 29872-29875 29885-29891 29936-29937 29980-29981 29991-29994 30059-30060 30084-30087 30109-30117 30179-30182 30201-30204 30271-30274
esophagus	BioChain	ESO002	4581-4582 4810-4811 5335-5336 8466-8476 9475-9476 15588-15589 16652 18781-18783 19943-19946 21277-21280 26843 27100-27102 30205 30233-30235
fetal brain	Clontech	FBR001	202-203 847-848 1097-1098 1259-1262 1721-1722 2404-2406 2951-2955 5276-5278 5802 7902-7903 8377-8379 9196-9200 9443 9828 9969-9980 10273-10274 10326-10328 10876 10976-10978 11024-11025 11476-11478 11731-11734 11803-11804 12127-12128 12150-12151 13107-13117 13581-13583 14604 17366-17368 17455-17456 18627-18628 18964-18969 19018 19211-19212 19362 19387-19389 19401-19402 20328-20330 20345-20348 20554-20557 21256-21266 21377-21397 21434-21439 21978 22141-22143 22200-22203 22637-22643 22899-22900 23222 23709 23893-23902 25416-25417 26307-26309 26329 26831 27113 27245-27246 27386-27389 27976-27982 28186 30141-30142
fetal brain	Clontech	FBR004	1667-1668 1990 2114-2115 2389 4818 5980-5984 7542-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			7550 7699-7700 7757-7759 7986-7987 8274-8276 8307 8588-8597 9049-9062 9862-9863 10480-10482 11018 11308-11310 12581-12582 15397-15398 19074-19080 19306-19307 19800-19803 20087-20094 20104-20105 20241 20415-20417 20491-20494 20563-20567 20607- 20612 20698-20707 20865 20897-20900 21105-21111 21939 22087-22088 22144-22151 22625-22628 23007- 23021 23526-23531 23710 25347-25354 25534-25536 26329 26347-26348 26383-26385 26843 28148-28156 28424 29954-29955
fetal brain	Clontech	FBR006	3-4 168 192 197-200 240-250 324-325 329-330 362 373- 374 464-465 532-535 553-554 576-578 613-614 713-715 847-848 912 927 934-935 949-950 1044-1045 1071 1097- 1098 1203-1204 1235-1237 1273-1279 1304 1411-1413 1488-1489 1569-1570 1591-1592 1678-1687 1705-1714 1923-1924 1977 2023-2029 2145 2228 2231-2253 2259- 2264 2356 2375 2396-2400 2404-2406 2431 2437-2439 2475 2525-2528 2599-2603 2656-2658 2663-2665 2707- 2716 2720-2732 2734-2745 2770-2772 2808-2811 2871- 2873 2889-2891 2931-2935 2951-2955 3001 3039 3080- 3081 3105-3106 3205-3207 3213 3261-3263 3377 3477- 3478 3507 3512-3514 3555-3558 3596 3671-3673 3683 3687-3691 3693 3708 3711-3712 3729-3730 3781-3784 3809 3939-3941 3949-3953 4055-4061 4065 4091-4100 4122-4126 4137-4139 4209-4210 4542 4562-4568 4574- 4576 4667 4673 4683-4684 4720-4725 4765-4773 4795- 4809 4845-4851 4854-4856 4870-4871 4948 4964-4965 4970 5136-5137 5139 5246 5251-5252 5291-5294 5392 5532-5533 5557-5560 5567-5568 5594-5602 5744-5747 6011-6021 6137 6155-6161 6209-6211 6217-6222 6378- 6388 6393-6395 6406-6410 6452-6453 6488-6490 6513- 6515 6542-6543 6669-6670 6674-6675 6775-6778 7194- 7197 7220-7227 7236-7237 7264-7266 7350-7352 7364- 7365 7426-7442 7452-7460 7482-7517 7557-7559 7580- 7597 7604-7605 7630-7636 7657-7659 7695-7696 7745- 7746 7778-7783 7787-7788 7898-7900 7946 7957 7986- 7987 7993 8013-8016 8079 8137-8141 8152-8156 8162- 8173 8187-8200 8204-8205 8211-8213 8230-8233 8247- 8249 8263-8265 8301-8310 8313-8314 8320-8322 8335- 8336 8347-8348 8351-8360 8371-8374 8383-8389 8420- 8421 8426-8428 8457-8458 8461-8465 8497-8499 8506 8512-8513 8588-8597 8607-8609 8688 8733-8735 8758- 8759 8762-8766 8919-8933 8936-8945 8974-8977 8982- 8983 8998-9004 9029-9030 9043-9045 9068 9306-9311 9380-9381 9510-9518 9529-9531 9585 9603-9604 9729- 9731 9763-9767 9799-9800 9808-9812 9829-9832 9929- 9935 9958-9959 9969-9980 9989-9992 9997-10009 10015-10016 10033-10037 10449-10453 10477-10478 10483 10513-10518 10523-10530 10537-10538 10603- 10608 10638-10639 10780-10782 10901-10902 10931- 10933 10965 11026 11081 11123-11124 11317 11345- 11350 11465-11472 11476-11478 11577 11672 11711- 11712 11731-11734 11739-11740 11803-11804 11934 12102-12110 12117-12118 12131-12132 12202-12208 12215-12217 12226-12228 12333-12334 12374-12377

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			12403-12405 12437-12438 12441-12445 12451-12453 12486-12518 12598 12723 12894-12897 13503-13512 13529-13535 13585-13588 13796-13797 13838-13844 13898 13994-13997 14023-14026 14044-14045 14061- 14063 14127-14128 14137-14138 14173-14174 14209- 14215 14236-14238 14261-14263 14349-14351 14391 14410-14412 14605-14609 14626 14681-14682 14684- 14689 14694-14701 14709-14713 14988-14993 14999- 15001 15019-15024 15253-15255 15257-15259 15300- 15301 15358-15359 15381-15385 15397-15398 15406- 15407 15454-15461 15491-15525 15567 15855-15857 15861-15866 15890-15895 15902-15903 16022-16023 16060-16061 16110-16112 16115-16117 16123-16128 16130-16132 16219-16220 16365-16366 16434-16437 16465-16466 16470-16472 16496-16497 16553-16556 16570-16573 16599 16623 16628-16631 16636-16637 16643-16651 16714-16723 16836-16842 16860-16870 16903-16909 16938-16941 16962-16965 16996-16999 17002-17009 17018-17023 17026-17028 17067-17069 17105-17106 17115 17120-17122 17264-17267 17286- 17306 17359-17360 17372-17374 17571-17574 17685- 17696 17857-17861 17927-17929 17949-17952 17958- 17962 18001-18004 18038-18042 18136-18138 18411 18427-18429 18500-18501 18516-18518 18536-18537 18625-18626 18644-18650 18655-18660 18691-18692 18719-18726 18730-18732 18771-18772 18789 18806- 18807 18829-18834 18857-18880 18882-18888 18925- 18933 18944-18945 18947-18950 18955-18959 18964- 18969 19005-19009 19029-19035 19045-19048 19055 19071-19073 19081-19083 19096-19101 19138-19140 19159-19161 19211-19212 19266-19267 19274 19295- 19296 19350 19362-19364 19375-19379 19385-19389 19422-19431 19442-19444 19447-19448 19526-19529 19548-19553 19566-19573 19598-19602 19659-19661 19670-19671 19693 19706-19708 19733-19735 19814- 19818 19933-19939 19948-19950 19953-19963 19972- 19980 20029-20043 20069-20071 20095-20102 20120- 20194 20198-20221 20235-20240 20244-20252 20265- 20270 20274-20278 20321-20324 20414 20437-20440 20447-20451 20456-20471 20476-20479 20505-20509 20547 20559-20568 20607-20612 20621-20624 20631- 20634 20646-20648 20676-20681 20686-20687 20698- 20707 20718-20725 20727-20734 20747-20751 20754- 20757 20801-20805 20827-20843 20865 20929-20932 20952-20954 20957-20962 21062-21066 21112-21114 21141-21142 21157-21169 21176-21180 21197-21198 21213-21215 21229-21232 21253-21255 21263-21266 21326-21333 21353-21354 21377-21397 21410-21414 21454-21457 21480-21482 21495-21500 21554-21556 21647-21655 21712-21717 21729-21733 21744-21747 21881-21885 21891 21899-21904 21911-21912 21915- 21924 21951-21974 21978-21982 21995-22002 22007- 22018 22020-22029 22035-22036 22045-22046 22056- 22059 22062-22069 22074-22076 22080-22083 22092- 22094 22108-22114 22128-22134 22141-22143 22152-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22156 22158-22159 22169-22175 22218-22224 22246-22249 22251-22252 22265-22270 22277-22299 22318 22358-22359 22365-22371 22377-22392 22399-22408 22495 22531-22533 22561-22568 22571-22581 22625-22628 22634-22643 22726-22727 22743-22748 22768-22770 22801-22804 22810-22816 22854-22856 22940-22947 22952-22953 23022-23025 23046-23052 23059-23060 23064-23065 23085-23086 23120-23122 23125-23136 23203-23209 23218-23221 23223-23225 23236 23245 23356-23360 23392-23395 23415-23419 23422 23486-23487 23497-23498 23532-23539 23543-23544 23579-23595 23682-23686 23704 23761-23763 23771-23797 23827-23833 23882 23903-23904 23941-23956 23999-24001 24005-24011 24021-24024 24035-24040 24481-24490 24495-24498 25299-25305 25319-25321 25340-25341 25376-25377 25383-25401 25410-25413 25416-25417 26196-26199 26266 26280 26292-26302 26327 26329 26337 26373-26374 26395 26431 26454-26463 26465-26466 26473-26474 26604-26606 26662 26687 26695-26697 26732 26742 26835 26842 26860-26862 26873-26875 27098-27099 27127-27128 27175-27176 27304-27305 27372-27375 27411-27412 27435-27436 27498-27500 27504-27507 27518-27519 27557-27559 27564 27586-27587 27600-27601 27636-27639 27649-27654 27674-27688 27698-27699 27816-27844 27859-27860 27865-27868 27890-27892 28001-28003 28050-28059 28097-28100 28122 28186 28222-28224 28272-28276 28311-28313 28350-28351 28424 28728-28742 28754-28760 29242-29243 29248 29278-29285 29304-29308 29343-29345 29352-29357 29508-29518 30085-30087 30130-30140 30205 30221-30235
fetal brain	Clontech	FBRs03	2724-2726 4581-4582 7681-7687 11081 11937-11938 12150-12151 12258 14004 16168-16171 17070-17071 18919-18921 19526-19529 19709-19710 20927-20928 21877-21880 22115-22116 22160 22277-22283 22343-22346 22973 23543-23544 23793-23797 27114-27120 27814-27815 27989-27990 30135-30140
fetal brain	Invitrogen	FBT002	130-132 180-181 255-256 329-330 507 553-554 582-584 631-633 716-717 723-725 764-767 792-795 832-836 847-848 852-855 862-863 901-904 955-956 1097-1098 1123-1127 1142-1152 1185-1187 1203-1206 1208-1211 1213-1214 1216 1228-1242 1414-1417 1432-1435 1453-1454 1470 1632-1633 1767-1768 1925-1927 2030 2214-2219 2275-2276 2299 2471-2474 2591 2599-2603 2724-2726 2923-2924 3164 3195-3197 3255-3259 3322-3323 3374-3377 3433 3468-3471 3507 3524 3526-3548 3616-3617 3686 3809 3834-3835 3949-3953 4091-4095 4104-4116 4434 4562-4568 4644-4650 4874-4889 4950-4951 5335-5336 5803-5804 5854-5855 5873-5874 5899-5902 5919-5921 5939-5941 5980-5984 6038-6042 6140-6143 6166-6168 6170 6782-6784 6791-6794 6879-6881 6932-6938 7008-7010 7216-7219 7452-7460 7615-7617 7620-7621 7678-7687 7745-7751 7757-7759 7787-7788 7795-7797 7821 7896-7897 7906-7912 7916 7921-7925 7930-7932 7988 7994 8017-8019 8046 8090-8093 8113-8116 8132-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			8136 8152-8159 8182-8183 8187-8200 8227-8232 8253- 8257-8335-8336-8347-8348 8370 8404-8406 8487-8488 8497-8499 8502-8503 8607-8609 8689-8690 8762-8766 8917-8918 9013-9017 9036 9454-9458 9475-9476 9506- 9509 9531 9535-9537 9586-9592 9594-9602 9617-9626 9664-9665 9682-9683 9729-9731 9735-9738 9743-9754 9757-9758 9784-9785 9826 9828 9851-9852 9854-9855 9896-9897 9909-9912 9927-9928 9956-9957 9969-9980 10017-10019 10306 10451-10453 10477-10478 10520- 10522 10603-10606 10638-10639 10780-10782 10881- 10883 10899-10902 10913-10914 10919-10922 11135 11143 11212-11216 11228-11229 11306-11307 11345- 11350 11538-11540 11603-11606 11680-11696 11711- 11713 11731-11734 11739-11740 11761-11763 11772- 11774 11803-11804 11843-11855 11873-11875 12040- 12041 12150-12151 12194-12196 12206-12208 12430- 12431 12455-12459 12637 12755-12759 12803-12804 12898-12899 12997-12999 13552-13555 13585-13588 13592-13595 13796-13797 13918-13919 13999-14003 14046-14047 14123-14128 14137-14138 14604 14709- 14713 14784 14822-14838 15019-15024 15182-15183 15233-15236 15257-15259 15290-15291 15298-15299 15326-15328 15486-15489 15496-15525 15576-15577 15588-15589 15623-15626 15867-15868 16115-16117 16174-16176 16371-16372 16387-16391 16576-16577 16614-16618 16623 16643-16648 16799 16851-16853 16894-16896 17026-17028 17038-17041 17120-17122 17131-17132 17242 17454 17958-17962 18001-18003 18136-18138 18412-18418 18427-18429 18624 18655- 18658 18750-18756 18789 18806-18807 18842-18845 18894-18896 18904-18905 18919-18921 18947-18950 18964-18969 18976-18977 18989-18990 18993-18996 19062-19065 19068-19070 19207-19208 19266-19267 19308-19309 19316-19342 19345-19350 19362 19380- 19389 19407-19411 19422-19434 19441 19458-19460 19566 19659-19661 19667-19668 19670-19671 19699- 19705 19709-19710 19759-19763 19810-19813 19933- 19937 19939 19950 19962-19963 19965-19967 19972- 19980 20099-20102 20122-20127 20130 20137-20145 20161-20164 20167-20171 20198-20207 20215-20218 20231-20234 20241 20363-20365 20415-20417 20452- 20455 20469-20471 20497-20498 20514-20520 20524- 20535 20537-20541 20575-20578 20607-20612 20625- 20628 20631-20634 20646-20648 20681 20816-20818 20836-20843 20865 20927-20928 21005-21008 21076- 21087 21101-21104 21137-21140 21153-21154 21171- 21174 21229-21232 21253-21255 21284-21294 21351- 21352 21410-21414 21447-21450 21454-21457 21467- 21469 21485-21491 21495-21500 21532-21533 21712- 21724 21729-21733 21877-21880 21903-21904 21924 21936-21938 21978 21983-21987 22000-22002 22007- 22015 22026-22029 22042-22046 22101-22107 22135- 22138 22152-22156 22165-22168 22200-22203 22218- 22226 22243-22245 22284-22289 22292-22299 22309 22349-22350 22358-22359 22381-22382 22394-22398



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22405-22408 22495 22531-22533 22561-22565 22625-22628 22881-22886 22923-22924 22941-22947 22952-22953 22980-22981 23007-23021 23047-23050 23071 23092-23093 23203-23205 23212-23215 23229-23233 23245 23279-23281 23379-23381 23434-23437 23492-23493 23599 23682-23686 23726-23730 23812-23813 23867-23870 23878-23880 23960-23992 23999-24001 24005-24011 24021-24024 24056 25085-25090 25313 25322-25325 25336-25337 25340-25341 25374-25375 25416-25417 25598-25603 26205-26206 26329 26337 26347-26348 26373-26374 26602 26665-26666 26678-26680 26691-26694 26705-26707 27100-27102 27193-27200 27229-27232 27239-27244 27269-27270 27304-27305 27544-27545 27586-27587 27600-27606 27649-27654 27755-27756 27814-27815 28099-28100 28138-28140 28186 28234-28254 28290-28292 28424 28426-28428 28533-28539 29288-29289 29418-29419 29594-29604 30141-30142 30150-30156 30189-30194 30221-30223
fetal heart	Invitrogen	FHR001	1049-1050 3526-3529 8090-8093 8512-8513 12194-12196 13585-13588 13638-13641 13645-13651 19370 19515-19521 20161-20164 20182-20188 20437-20440 20676-20680 20792-20797 21408-21409 22160 22343-22346 22690 23543-23544 23816-23819 26307-26309 28424
fetal kidney	Clontech	FKD001	30 177-178 279-280 329-330 373-374 508 524-525 656 726 785-786 1006-1007 1012-1017 1021-1025 1028 1047 1092-1094 1235-1237 1269-1272 1290 1302-1303 1309 1314 1431 1499 1678-1680 1705-1714 1887-1889 2063-2065 2306 2550-2552 2649-2650 2874-2876 2926 2988-2989 3105-3106 3461-3463 3531-3534 3705-3706 3737 4255 4438-4443 5141-5145 5311-5325 5335-5336 5827-5828 5919-5921 6348-6349 6405-6410 7536-7541 7561-7562 7640-7642 7728 7745-7746 7757-7759 7778-7783 8043-8044 8277-8295 8466-8476 9018-9020 9038-9039 9306-9311 9339 9456-9458 9460 9531-9534 9617-9626 9664-9665 9826 9829-9832 9993-9996 10012 10273-10274 10277 10306 10488-10489 10494 10592-10594 10615-10623 10638-10639 10873-10875 11431-11432 11435-11436 11476-11478 11549-11550 11761-11763 11803-11804 11842 12150-12151 12202-12205 12361 12483-12485 12519-12540 12543-12544 12637 12723 12796-12798 12978-12981 13077-13079 13592-13595 13603-13605 13888-13895 13931-13933 13939-13953 14004 14090-14093 14261-14263 14784 15124-15125 15151-15157 15221 15290-15291 15576-15577 15588-15590 15623-15626 15686-15687 15878 16044-16046 16284-16289 16371-16372 16636-16637 16652 16828-16831 17330-17332 17455-17456 17958-17962 18015-18016 18527 18625-18626 18644-18650 18738-18744 18761 18778-18780 18796 18802-18807 18857-18880 18899-18903 18919-18921 18934-18935 18960-18963 18975 18989-18990 19062-19065 19074-19083 19224 19257 19351-19354 19370 19405-19411 19415-19417 19422-19431 19445 19461 19503 19522-19524 19526-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19531 19560-19562 19659-19661 19667-19668 19736-19742 19759-19763 19855-19856 19924-19925 19938 19943-19946 19972-19980 20155-20156 20263-20270 20289 20299 20401-20405 20437-20440 20472-20474 20514-20520 20524-20535 20542-20545 20614-20615 20698-20707 20806-20815 20879-20880 20897-20900 20929-20932 20938-20942 21032-21045 21112-21114 21123-21127 21233-21235 21237-21240 21253-21255 21263-21266 21277-21280 21447-21450 21467-21469 21480-21482 21587-21655 21915-21921 21975-21977 22135-22138 22160 22195-22198 22261-22270 22358-22359 22373 22455-22465 22534-22539 22644-22651 22663-22664 22669-22670 22700-22701 22708-22709 22887-22891 22955-22957 23070 23222 23343-23344 23382-23385 23392-23395 23489-23490 23510-23513 23720-23721 23726-23730 23761 23798-23799 25383-25401 25598-25603 26237-26239 26329 26339-26340 26460-26463 26691-26694 26742 26806 26833-26834 26843 26879 27044-27047 27129-27132 27173-27174 27269-27270 27283-27287 27414-27431 27510-27511 27544-27545 27600-27601 27700-27701 27784-27788 27861-27864 27989-27990 28263-28268 28361-28362 28424 28446-28448 29328-29331 29339-29340 29343-29345 29352-29353 29409-29416 30085-30087 30141-30142 30150-30156
fetal kidney	Clontech	FKD002	170-171 273-278 2222-2226 5808-5812 6403-6404 7209-7212 7990-7992 8554-8555 8688 9475-9476 11731-11734 12150-12151 12202-12205 15182-15183 16652 17038-17041 17105-17106 17958-17962 18536-18537 19362 19370 19706-19708 21277-21280 21326-21333 21377-21397 21962-21966 22690 23070 25373 26024-26028 26843 27269-27270 27989-27990
fetal kidney	Invitrogen	FKD007	792-795 2808-2811 3374-3376 3862 7209-7212 7757-7759 8349-8350 8363-8364 10873-10875 11561-11562 11835-11836 14101-14102 14261-14263 15182-15183 16642 16652 17454 19211-19212 19370 19441 19548-19553 20257-20262 20271-20273 20289 21088-21096 21978 22358-22359 22663-22664 23053-23056 23508-23509 23761 25331-25333 27269-27270 27816-27818 28142-28145
fetal lung	Clontech	FLG001	170-171 1028 1097-1098 1522-1524 1527-1529 1721-1722 2275-2276 2471-2474 3591 3789-3794 4206-4208 4212 5337-5341 5541-5556 6403-6404 6570-6571 7296-7298 7747-7751 8152-8156 8512-8513 8762-8766 9444 9759-9762 9857-9861 10273-10274 10277 10306 10592-10594 11081 11406-11407 11431-11432 11495 12258 12283-12284 12642-12644 12725-12727 12829-12830 13592-13595 14204 14821 15258-15259 15412-15414 15457-15459 15614-15616 15863-15866 15890-15895 16716-16723 17242 17330-17332 18008-18009 18644-18650 18723-18726 18761 18789 18796 18854 18975 19375-19379 19494-19496 19683-19687 19764-19767 19813 19972-19981 20015-20017 20029-20043 20289 20345-20348 20401-20405 20418-20420 20447-20451 20501 20548-20553 20698-20707 20943 21005-21008

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			21027-21031 21275-21276 21516-21528 21967-21968 21983-21987 22007-22015 22020-22025 22056-22059 22333-22335 22373 22622-22624 22637-22643 22669- 22670 22700-22701 22728-22729 22887-22891 23059- 23060 23063 23229-23233 23470-23472 23903-23904 25334-25335 25370-25372 27269-27270 27304-27305 27386-27389 27570-27571 28008-28011 28234-28254 28311-28313 29409-29416 30085-30087 30150-30156
fetal lung	Invitrogen	FLG003	255-256 412-413 461-463 534-535 619-620 785-786 981- 985 1273-1279 1337 1678-1680 1792-1794 2207-2208 2341-2343 2471-2474 2774-2775 2779-2792 2874-2876 2923-2924 2936-2938 3326-3331 3708 4531-4533 4685- 4690 4795-4809 5337-5341 6235-6237 6530-6531 6932- 6938 7258-7263 7536-7541 7660-7665 7745-7746 7901 8017-8019 8074-8076 8113-8114 8152-8156 8318-8322 8349-8350 8422-8425 8434-8452 8457-8458 8502-8503 8688 8736-8737 9022-9025 9100-9144 9306-9311 9472- 9474 9584 9733-9734 9759-9762 9794-9795 9828 9833- 9843 9857-9861 9864-9866 9909-9912 9923-9924 9958- 9959 10015-10016 10277 10523-10530 11345-11350 11423-11426 11431-11432 11577 11610-11611 11901- 11905 12050-12056 12455-12464 12565-12568 12581- 12582 12598 12760-12762 12978-12981 13585-13588 13931-13933 14236-14238 14261-14263 14604 14624- 14625 15412-15414 15558-15560 15588-15589 15902- 15903 16145-16146 16345-16349 16636-16637 16642 16851-16853 17024-17025 17046-17057 17454 17934- 17936 18015-18016 18405-18406 18655-18658 18796 18899-18903 18910 18915-18918 19138-19140 19159 19308-19309 19375-19379 19401-19402 19623-19624 19800-19803 19943-19946 19981 20053-20063 20103- 20105 20222-20225 20231-20253 20263-20264 20289 20340-20341 20401-20405 20412-20413 20415-20417 20456-20468 20501 20537-20541 20607-20612 20646- 20648 20698-20707 20726 20733-20734 20827-20835 20863 20957-20962 20977-20984 21015 21076-21087 21097-21100 21157-21174 21248-21252 21277-21280 21284-21294 21403-21404 21428-21433 21492-21494 21911-21912 21939-21946 22000-22002 22007-22015 22056-22059 22062-22069 22120-22127 22158-22160 22200-22203 22265-22276 22336-22346 22358-22364 22561-22568 22571-22581 22708-22709 22843-22845 22977 23007-23021 23098-23101 23252-23256 23506- 23507 23532-23539 23599-23628 23827-23833 24021- 24024 24120-24125 25373-25375 25410-25413 26237- 26239 26294-26302 26327 26350-26352 26357 26359- 26360 26383-26385 26479-26545 26607-26609 26698- 26699 26742 26860-26862 26876-26879 27225 27441- 27443 27544-27545 27790-27796 27812-27813 27845- 27852 27970 28099-28100 28133-28137 28142-28145 28426-28428 28768-28774 29117-29123 29950-29953 30195-30199
fetal lung	Clontech	FLG004	1569-1570 6005-6006 6403-6404 19074-19080 19706- 19708 20676-20680 21157-21169 23098-23101 23543- 23544 26383-26385

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
fetal liver-spleen	Columbia University	FLS001	1-6 8 10-16 21-23 25 30-33 35-38 48-54 74-79 81-120 122-123 126-129 156 158-159 164 167 170-171 177-178 180-181 185-192 195-205 215-224 226-235 237-239 251- 253 255-256 260 273-284 286-291 307-309 319-325 328 331-332 373-374 395 398-399 404-405 412-420 461-465 505 515-517 524-525 528 546-547 551-556 576-578 582- 584 619-620 626-630 652 685-688 694-695 697-699 708- 711 716-722 729 738-748 754-757 763 771-772 777-778 785-786 796-797 832-836 847-848 852-855 864-867 880- 882 891-898 900-911 913 919-922 934-935 969-971 979- 985 1001-1003 1005 1028 1047 1067-1071 1080-1081 1092-1094 1097-1098 1109-1110 1114-1115 1123-1127 1129 1140-1141 1158-1161 1163-1164 1169-1179 1240- 1241 1259-1262 1273-1279 1295-1297 1302-1303 1307 1310-1313 1368 1372-1373 1388-1401 1424-1429 1432- 1437 1440-1447 1453-1454 1467-1469 1478 1483 1544- 1546 1551 1618 1658-1660 1667-1668 1675 1678-1687 1705-1714 1721-1722 1725-1726 1732-1737 1747-1749 1773 1777 1792-1794 1840 1879-1880 1912-1913 1915- 1916 1921-1924 1961-1962 1977 1986-1987 2015-2018 2030-2034 2058-2060 2063-2066 2114-2115 2201-2203 2222-2226 2272-2276 2284-2299 2306 2354-2355 2362- 2363 2383-2388 2393-2395 2404-2406 2431 2439 2457 2471-2474 2517-2518 2540-2541 2561-2562 2570-2574 2599-2603 2649-2650 2666 2687-2688 2695-2698 2706 2745 2806 2808-2811 2814-2815 2871-2873 2889-2891 2918-2919 2923-2924 2926 2934-2935 2967 2973 2975- 2977 2983-2986 3002-3003 3006-3008 3026-3028 3078- 3079 3090 3101-3104 3107-3108 3118-3119 3144-3146 3151-3154 3182-3187 3195-3197 3205-3207 3264 3276- 3277 3290 3304-3308 3345 3352 3366-3369 3374-3377 3414-3417 3433 3435-3445 3464-3465 3468-3471 3477- 3478 3512-3520 3525-3529 3565-3588 3676 3686-3691 3693 3708 3789-3794 3820-3821 3834-3835 3840-3852 3879-3880 3939-3941 3949-3953 4084-4085 4091-4095 4101-4116 4141-4146 4151-4155 4160-4162 4211 4220- 4238 4244-4247 4255 4261-4265 4273-4275 4343-4346 4386-4390 4441-4443 4469-4482 4486-4487 4489-4493 4512-4516 4531-4533 4542 4546 4555-4556 4562-4573 4581-4582 4623-4639 4660-4662 4666 4668-4672 4712- 4713 4720-4727 4738-4750 4780-4781 4785-4789 4795- 4809 4841 4857-4861 4897-4898 4967-4968 4980-4981 4984-4985 4989-4991 5057-5059 5066 5082 5109-5115 5139 5151-5179 5190-5191 5269-5271 5279-5283 5335- 5341 5360 5362-5366 5368-5375 5381 5387-5389 5480- 5484 5487-5488 5490 5493-5496 5512-5518 5530-5531 5557-5560 5567-5568 5572-5573 5580 5591-5592 5658 5703-5704 5717-5718 5768-5772 5802-5804 5827-5828 5846 5907-5909 5919-5921 5939-5941 5943-5945 5967- 5969 5973-5975 5980-5984 5997-6000 6011-6021 6084 6135-6136 6166-6168 6226-6234 6291-6296 6335-6336 6377 6403-6404 6439-6440 6445-6449 6455-6458 6461- 6483 6488-6489 6503-6510 6523-6526 6533-6535 6540- 6543 6551-6567 6585-6592 6669-6672 6674-6675 6709- 6713 6745-6746 6773-6778 6791-6794 6852 6896-6899

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			6959-6960 7001-7007 7011 7203 7209-7212 7216-7219 7245-7248 7256-7263 7267-7268 7275-7276 7296-7298 7368-7369 7447-7449 7534-7541 7551-7559 7572-7577 7604-7605 7608 7613-7617 7620-7621 7630-7636 7648- 7653 7660-7665 7671-7673 7681-7687 7693-7696 7698- 7703 7726-7727 7742-7743 7745-7751 7763-7775 7778- 7788 7794-7797 7802-7805 7815-7821 7891-7895 7898- 7901 7904-7915 7921-7925 7940-7945 7947-7948 7957 7972-7975 7978-7985 7988 7990-7992 7994 7998 8002 8010-8012 8069-8073 8077-8079 8084-8085 8087-8093 8113-8114 8117-8121 8132-8141 8145-8156 8163-8173 8187-8200 8203-8205 8211-8213 8227-8229 8242-8248 8253-8257 8297-8306 8310 8313-8314 8337-8342 8347- 8350 8365-8366 8368-8369 8390 8415 8422-8425 8434- 8448 8461-8464 8466-8476 8487-8489 8500-8501 8507- 8508 8512-8513 8537-8550 8554-8555 8588-8600 8607- 8609 8612-8616 8688-8690 8698-8700 8724-8732 8754- 8766 8768-8770 8777-8779 8917-8933 8939-8945 8978- 8983 8997 9002-9004 9007-9008 9013-9020 9028-9036 9038-9046 9049-9067 9072-9078 9196-9200 9264-9265 9267-9268 9306-9311 9316 9321-9323 9326-9328 9337- 9338 9340-9342 9353-9357 9362-9363 9366-9368 9375- 9376 9382 9391-9392 9395-9396 9420-9423 9427-9428 9444 9446-9448 9454-9458 9460 9472-9476 9478 9486 9510-9518 9522-9525 9531-9537 9558 9561-9562 9585- 9592 9603-9604 9609-9610 9617-9626 9664-9665 9667 9676 9682-9683 9726-9727 9729-9731 9735-9744 9757- 9767 9780-9783 9794-9795 9813-9820 9826 9828-9832 9841-9842 9851-9852 9854-9855 9857-9861 9896-9897 9899-9908 9913-9920 9923-9924 9929-9935 9953 9956- 9961 9969-9988 10011-10012 10017-10019 10025-10026 10033-10037 10045-10126 10164-10172 10263-10274 10277-10278 10306 10312 10320-10323 10449-10457 10470-10476 10488-10490 10494 10498-10503 10508- 10512 10519-10532 10543-10550 10588-10594 10600- 10601 10603-10608 10612-10614 10628-10630 10638- 10644 10873-10875 10881-10883 10886-10889 10891- 10893 10895-10898 10901-10902 10904-10905 10907- 10910 10913-10914 10931-10933 10963-10964 10966 10972 10976-10978 10980-10985 11038 11042-11044 11066-11068 11071-11075 11078-11121 11123-11125 11128-11142 11208-11209 11212-11219 11222-11229 11250-11275 11281-11282 11289-11290 11295-11301 11306-11310 11314-11315 11339-11353 11359-11369 11399-11407 11423-11426 11431-11432 11460-11464 11468-11472 11476-11478 11493-11495 11501-11506 11513-11514 11538-11545 11561-11562 11565-11567 11574-11576 11582-11583 11586-11606 11609 11612- 11639 11644-11650 11658-11659 11672 11700-11707 11711-11712 11731-11734 11739-11740 11745-11750 11761-11763 11766-11768 11775-11776 11780-11782 11803-11808 11811-11832 11835-11836 11842 11873- 11875 11890-11891 11921-11930 11939-11940 11947- 11950 12011-12013 12027-12039 12050-12056 12121- 12126 12140 12150-12151 12186-12189 12192-12196

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			12202-12208 12226-12228 12241-12253 12256-12258 12280-12284 12331-12332 12371-12397 12429 12436- 12438 12446-12450 12455-12459 12470-12471 12486- 12540 12545-12546 12562-12563 12565-12568 12590- 12592 12601-12602 12619-12622 12637-12638 12640 12642-12644 12666-12667 12673-12678 12701-12705 12723 12725-12727 12755-12759 12792-12793 12796- 12799 12803-12804 12824-12827 12894-12897 12963- 12964 12968-12969 12978-12981 12984-12985 12997- 12999 13071-13074 13077-13079 13107-13117 13512 13556-13559 13567-13568 13576-13579 13581-13583 13592-13595 13598-13600 13609-13616 13632-13633 13638-13641 13652-13659 13668-13672 13761-13795 13838-13842 13861 13867-13868 13873-13875 13898- 13899 13907 13925-13926 13954-13956 13999-14004 14023-14026 14036-14037 14044-14045 14048-14056 14103 14127-14128 14143-14164 14170-14181 14192- 14195 14209-14215 14236-14238 14257 14261-14263 14268-14269 14347-14348 14389-14390 14463-14497 14546-14549 14604 14607-14609 14628-14635 14650- 14651 14661-14665 14676-14678 14681-14682 14684- 14689 14694-14701 14709-14717 14784 14792 14818- 14820 14866-14870 15011-15069 15093-15096 15118- 15119 15132-15157 15174-15183 15190-15191 15197- 15200 15222-15224 15233-15236 15243-15248 15257- 15259 15277-15278 15283-15286 15290-15291 15298- 15303 15321-15322 15326-15328 15336-15340 15358- 15359 15381-15388 15406-15414 15457-15459 15530- 15535 15545-15546 15551-15552 15558-15560 15563- 15564 15576-15577 15588-15589 15614-15620 15629- 15632 15661-15663 15699-15700 15855-15857 15867- 15870 15878 15880-15885 15890-15895 15969-15974 15988-15990 16022-16023 16041-16046 16053-16058 16060-16061 16067 16115-16117 16141-16143 16163- 16164 16168-16171 16174-16176 16200-16201 16206- 16208 16216-16217 16233-16237 16239 16250 16255- 16268 16279-16280 16284-16295 16304-16305 16310- 16314 16345-16349 16365-16366 16371-16372 16399- 16402 16418-16429 16434-16437 16440-16448 16461- 16464 16470-16472 16479-16481 16484-16486 16489- 16493 16508-16511 16517-16519 16536-16538 16545 16550-16552 16558-16562 16579-16585 16601-16611 16619-16621 16623 16636-16637 16642-16648 16652- 16655 16686-16693 16702-16705 16714-16715 16727- 16729 16802-16803 16836-16842 16851-16853 16860- 16870 16873-16874 16894-16896 16910 16913-16915 16918-16919 16934-16939 16949-16953 16967-16970 17026-17028 17038-17041 17067-17069 17078-17079 17114 17120-17122 17233-17234 17237-17242 17268- 17274 17286-17291 17330-17332 17335-17358 17366- 17368 17441-17450 17454-17456 17463-17464 17538- 17565 17571-17574 17581-17582 17855-17861 17934- 17936 17955 17958-17962 17995-17997 18001-18003 18015-18016 18018-18023 18029-18030 18038-18042 18046-18048 18097-18134 18136-18138 18371-18372

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			18374-18375 18400-18402 18405-18418 18421-18425 18427-18429 18495-18519 18527 18535-18537 18577- 18578 18587-18617 18621-18637 18642-18660 18662 18668-18677 18691-18693 18717-18726 18730-18732 18738-18756 18759-18761 18771-18780 18784-18786 18789-18793 18796-18807 18811-18813 18822-18834 18836-18855 18857-18880 18882-18888 18897-18905 18910 18915-18921 18923-18939 18941 18944-18945 18947-18950 18955-18973 18975-18977 18986-18988 18993-18996 19005-19009 19012 19018 19029-19035 19045-19048 19055 19057-19058 19062-19065 19071- 19085 19096-19101 19132 19134 19138-19140 19142- 19148 19153-19155 19159 19202-19210 19213-19220 19224-19227 19251-19257 19260-19262 19266-19267 19271-19272 19274-19279 19283-19296 19306-19309 19316-19317 19343 19350-19364 19368-19370 19372 19375-19384 19387-19402 19407-19411 19413-19417 19422-19431 19438-19444 19454-19455 19461 19467- 19487 19503 19512-19521 19526-19529 19536 19548- 19553 19560-19562 19564-19578 19583-19586 19604- 19607 19609-19615 19617-19619 19625 19627 19659- 19661 19663-19668 19670-19710 19727-19748 19757- 19763 19772 19800-19812 19814-19822 19855-19856 19915-19929 19933-19946 19950 19953-19957 19962- 19963 19965-19967 19972-19980 19995-20017 20026- 20047 20072-20080 20087-20094 20099-20103 20106- 20112 20114-20120 20122-20132 20146-20148 20151- 20154 20157-20181 20189-20214 20226-20230 20235- 20241 20244-20253 20257-20278 20281-20282 20286- 20296 20299 20321-20324 20328-20330 20345-20354 20366-20368 20393-20407 20411 20415-20440 20447- 20451 20456-20474 20476-20479 20482-20494 20497- 20498 20502-20503 20505-20509 20511-20520 20524- 20535 20537-20541 20547-20557 20559-20567 20569- 20578 20602-20612 20614-20634 20639-20640 20644- 20648 20653-20671 20676-20681 20683-20685 20688- 20692 20698-20707 20710-20725 20727-20734 20747- 20752 20758-20766 20788-20797 20806-20812 20816- 20849 20853-20857 20863 20865 20871 20879-20880 20885-20887 20897-20900 20924-20932 20938-20943 20948-20949 20951-20954 20957-20976 20985-20988 20999-21008 21027-21056 21058-21111 21122-21127 21137-21140 21145-21148 21155-21169 21171-21174 21176-21180 21199-21210 21213-21215 21225-21228 21233-21235 21237-21252 21256-21262 21267-21274 21277-21296 21334 21340-21342 21351-21352 21359- 21360 21377-21397 21405 21410-21414 21434-21453 21463-21465 21467-21476 21480-21482 21485-21491 21495-21500 21516-21530 21532-21533 21554-21556 21587-21655 21712-21724 21744-21747 21773-21775 21877-21880 21892-21894 21899-21902 21905-21912 21917-21921 21925-21935 21939 21948-21968 21971- 21987 21995-22015 22019-22036 22040-22044 22047- 22079 22090-22094 22097 22101-22107 22115-22119 22128-22138 22141-22143 22152-22156 22160 22165-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22168 22171-22186 22193-22194 22204-22211 22218- 22226 22231-22235 22246-22250 22261-22289 22292- 22328 22336-22351 22358-22359 22362-22373 22377- 22380 22383-22392 22399-22432 22434-22435 22440- 22448 22455-22465 22495 22531-22539 22551-22560 22570-22581 22599-22602 22607-22609 22618-22624 22632-22651 22653-22657 22661-22667 22669-22670 22680-22684 22690 22696-22697 22700-22715 22725- 22727 22730-22731 22760-22764 22767-22770 22781- 22782 22794-22796 22805-22816 22821-22827 22833- 22834 22843-22849 22852-22856 22870-22874 22887- 22891 22904-22906 22909-22910 22916-22924 22927- 22938 22948-22950 22969-22977 22980-22981 22991- 22994 22998 23022-23025 23046-23055 23059-23060 23063-23067 23070-23071 23074-23076 23088-23090 23094-23101 23112-23119 23138-23141 23201-23202 23206-23209 23212-23215 23218-23221 23226 23229- 23233 23235-23236 23242-23244 23247 23251 23261- 23281 23356-23360 23378 23382-23390 23392-23398 23402-23408 23415-23421 23433-23437 23470-23474 23486-23487 23489-23490 23492-23493 23495-23496 23508-23511 23515-23518 23543-23544 23547-23548 23555-23565 23599-23624 23673-23681 23700-23701 23704-23709 23725-23730 23760-23763 23771-23780 23793-23799 23802-23809 23816-23819 23827-23835 23839-23848 23882 23890-23902 23906-23910 23959 23999-24011 24014-24018 24021-24025 24035-24040 24056-24091 24105-24113 24120-24129 24194-24196 24749-24754 24772-24774 25085-25090 25279-25288 25306-25308 25319-25321 25323-25325 25331-25337 25340-25341 25347-25354 25359-25363 25370-25375 25383-25401 25403-25407 25410-25413 25534-25536 25598-25603 25966-25968 26024-26028 26033-26049 26196-26199 26205-26213 26221-26245 26248-26251 26253-26257 26261 26266 26273-26280 26285-26290 26310-26314 26316-26321 26327 26337 26347-26348 26350-26352 26358-26365 26373-26374 26383-26385 26398 26409-26411 26423 26431 26455-26463 26469- 26470 26559-26560 26563-26566 26596-26602 26660- 26661 26676-26680 26691-26694 26705-26726 26731- 26735 26737-26739 26741-26756 26782-26785 26796- 26798 26802-26806 26813 26827 26835 26843-26845 26853-26854 26860-26862 26873-26879 26888-26890 26980-26987 27028-27029 27044-27047 27100-27102 27105 27122-27126 27133-27134 27142-27149 27173- 27174 27177-27178 27193-27200 27209-27213 27218 27240-27246 27269-27270 27275-27276 27281-27282 27299-27301 27304-27305 27348-27353 27386-27391 27414-27431 27438-27443 27458-27459 27497 27501- 27507 27510-27511 27520-27521 27544-27545 27551- 27554 27557-27559 27586-27587 27600-27606 27636- 27639 27649-27654 27662-27672 27698-27699 27707- 27708 27729-27743 27750-27756 27799-27802 27812- 27820 27825-27826 27861-27864 27896-27927 27943- 27947 27988-27990 27992-27997 28050-28091 28095-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			28096 28099-28100 28105-28107 28142-28156 28192-28198 28232 28234-28254 28286 28308-28313 28361-28370 28424 28449 28533-28539 28573-28578 29250-29252 29278-29283 29296-29300 29304-29314 29327-29337 29339-29340 29343-29345 29354-29357 29367 29371-29379 29409-29416 29508-29518 29529-29534 29718-29721 29950-29955 29960-29961 30085-30087 30135-30142 30150-30156 30195-30199 30205 30218-30232 30236-30242 30361-30368
fetal liver-spleen	Columbia University	FLS002	1-2 5-6 21-23 26-27 30 35-38 48-49 74 77-78 87-94 108-112 129 150-151 164 170-171 180-181 188-192 197-200 205 218-220 227-230 235 237-239 251-252 273-278 304 309 319-323 328-330 332 362 395 414-420 425-427 505 515-519 528 532-533 543-547 582-584 619-620 674-675 685-688 694-699 708-711 716-717 742 754-757 763 777-778 785-786 825 832-836 847-848 852-855 892 895-898 901-906 910-912 969-971 979-985 1005 1067-1070 1080-1081 1092-1094 1109-1110 1163-1164 1185-1187 1202 1210-1211 1235-1237 1240-1241 1259-1262 1273-1279 1299-1300 1302-1303 1312-1313 1432-1435 1440-1447 1453-1454 1467-1469 1476-1478 1544-1546 1557-1558 1618 1625 1667-1668 1675 1678-1687 1705-1714 1725-1726 1757-1758 1838 1840 1866-1872 1879-1880 1912-1913 1915-1916 1918-1919 1961-1962 1967 1986-1987 1991-1992 2015-2018 2036 2058 2066 2072 2122-2124 2195-2196 2202-2205 2221 2275-2276 2279 2299 2308-2321 2348 2354-2355 2383-2388 2393-2400 2431 2457-2458 2514 2517-2520 2529-2542 2544-2574 2663-2665 2691 2695-2700 2717-2719 2745 2808-2811 2819 2871-2876 2908-2909 2913-2914 2917 2929-2930 2948-2949 2975-2977 2988-2989 3006-3010 3078-3079 3090 3112 3114 3126-3128 3130-3131 3165-3169 3182-3187 3226-3227 3306-3309 3326-3331 3352 3377 3392-3396 3418-3420 3433 3461-3463 3468-3471 3508-3510 3526-3529 3555-3558 3562-3564 3661-3663 3676-3678 3687-3691 3693-3694 3699-3703 3869-3877 3934 3949-3953 3970-4006 4077-4079 4101-4103 4131 4141-4146 4151-4155 4206-4208 4220-4238 4343-4346 4362-4365 4386-4387 4417-4419 4441-4449 4483 4489-4493 4515-4516 4526-4527 4546 4552 4562-4568 4623-4639 4658-4662 4666 4668-4672 4720-4725 4751-4755 4795-4809 4813-4815 4842-4851 4872-4898 4958-4959 4967-4968 4970 4980-4981 4984-4985 4989-4991 5082 5087-5088 5109-5115 5129-5130 5152-5153 5192 5200-5201 5253-5266 5269-5271 5279-5283 5288-5290 5311-5325 5368-5369 5381 5480-5482 5557-5560 5567-5568 5580-5583 5656-5658 5703-5704 5803-5804 5829-5846 5879 5912-5918 5932-5936 5939-5941 5943-5945 5973-5975 5980-5984 5992 6084 6114-6125 6155-6159 6170 6172-6174 6186-6189 6223-6225 6346-6366 6386 6400 6403-6404 6461-6484 6488-6489 6516-6519 6542-6543 6570-6571 6657-6661 6709-6711 6714-6747 6762-6764 6791-6794 6851 6877-6899 6932-6984 6998-7014 7094-7099 7216-7219 7245-7248 7256-7263 7267-7268 7275-7278 7296-7298 7364-7365 7479-7480 7554-7555 7557-7559 7580-7597 7604-

Tissue origin	RNA S urce	Library Name	SEQ ID NOS:
			7605 7615-7617 7630-7636 7640-7642 7654-7655 7657- 7659 7671-7673 7678-7687 7693-7694 7701-7703 7726- 7727 7742-7743 7745-7751 7757-7759 7763-7770 7794- 7797 7805 7815-7820 7901 7924-7925 7947-7948 7972- 7975 7978-7983 7990-7992 7998 8002 8008-8012 8017- 8019 8069-8070 8079 8084-8085 8090-8093 8098-8100 8107-8108 8117-8121 8129-8131 8137-8151 8157-8159 8163-8173 8178-8181 8203 8242-8246 8253-8262 8266- 8268 8297-8300 8308-8309 8313-8319 8339-8342 8347- 8350 8368-8369 8383-8389 8422-8425 8430-8448 8457- 8458 8461-8464 8487-8489 8497-8499 8504-8505 8509 8516-8518 8537-8538 8554-8555 8576-8582 8588-8597 8601-8609 8612-8617 8688-8690 8698-8700 8733-8735 8738-8740 8751-8766 8768-8799 8917-8933 8936-8945 8997 9002-9004 9013-9020 9031-9036 9038-9046 9049- 9062 9072-9074 9084-9085 9306-9311 9327-9328 9337- 9338 9343-9352 9362-9363 9366-9368 9382 9391-9392 9395-9396 9427-9428 9446-9448 9454-9459 9464-9469 9482-9486 9506-9518 9526-9528 9531-9537 9550-9551 9558 9561-9562 9577-9578 9594-9602 9609-9612 9617- 9626 9682-9683 9726-9728 9739-9742 9757-9769 9786- 9790 9794-9795 9813-9820 9828-9832 9835-9840 9848- 9850 9857-9861 9864-9866 9899-9908 9913-9920 9923- 9924 9927-9928 9942-9944 9953-9955 9958-9959 9969- 9980 9993-9996 10015-10016 10033-10037 10129-10145 10161-10163 10173-10174 10263-10264 10273-10276 10278-10311 10326-10328 10449-10453 10474-10476 10488-10489 10491-10493 10498-10503 10508-10515 10531-10532 10550-10554 10588-10599 10603-10611 10615-10623 10628-10630 10640-10644 10783-10785 10873-10875 10877-10878 10881-10883 10886-10889 10891-10893 10904-10905 10907-10910 10913-10918 10923-10926 10957-10958 10965-10966 10973-10975 11022-11023 11029-11031 11038 11040-11041 11066- 11068 11081 11123-11124 11130-11132 11135 11208- 11209 11212-11219 11226-11227 11230-11249 11281- 11282 11308-11310 11318-11320 11339-11344 11406- 11407 11460-11464 11473-11474 11476-11478 11505- 11506 11574-11576 11586-11606 11649-11650 11669- 11671 11711-11712 11715-11716 11731-11734 11739- 11740 11761-11763 11780-11782 11811-11832 11840 11901-11905 11912-11914 11916 11941-11944 11947- 11950 12011-12013 12023-12039 12050-12056 12121- 12126 12133-12134 12150-12151 12186-12191 12194- 12196 12206-12208 12221-12224 12245-12253 12256- 12257 12309-12311 12331-12332 12362 12368 12374- 12401 12403-12411 12446-12450 12455-12459 12468- 12471 12486-12518 12547-12554 12590-12596 12637 12640 12642-12644 12666-12667 12714-12715 12720- 12722 12725-12727 12785-12787 12794-12812 12814- 12822 12824-12827 12829-12830 12832-12834 12872- 12881 12894-12897 12944-12947 12963-12964 12977- 12981 12984-12985 12997-13006 13062-13063 13066- 13124 13512 13516 13545-13548 13576-13579 13585- 13588 13596-13597 13606-13612 13617 13632-13633

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			13761-13797 13810 13873-13875 13930-13933 13937- 13938 14004 14023-14026 14044-14045 14048-14056 14061-14063 14127-14128 14137-14138 14170-14172 14175-14181 14209-14215 14261-14263 14304-14305 14347-14348 14355-14356 14389 14391 14550-14551 14560 14604 14661-14662 14681-14682 14692-14693 14714-14717 14789-14791 14793 14810-14813 14841- 14875 14999-15001 15013-15070 15090 15093-15096 15118-15119 15182-15183 15187-15189 15197-15200 15209-15210 15212-15215 15221-15224 15243-15248 15250-15251 15258-15259 15283-15286 15290-15291 15321-15322 15358-15359 15392-15396 15406-15407 15460-15461 15491-15495 15545-15546 15551-15552 15561-15562 15568-15572 15606-15607 15631-15632 15679-15685 15688-15700 15861-15866 15869-15870 15878-15880 15988-15990 16022-16023 16041-16043 16067 16075-16079 16115-16117 16121-16122 16137 16141-16143 16168-16171 16174-16179 16202 16206- 16217 16233-16237 16279-16280 16290-16295 16365- 16366 16434-16437 16443-16445 16465-16466 16470- 16472 16496-16497 16508-16511 16517-16519 16542- 16545 16558-16562 16579-16582 16601 16609-16611 16632-16634 16643-16648 16652 16656-16657 16666- 16667 16702-16705 16771-16772 16781-16782 16836- 16842 16860-16870 16894-16896 16900 16918-16919 16962-16966 17067-17069 17114 17120-17122 17131- 17132 17237 17268-17274 17284-17285 17297-17306 17335-17339 17359-17360 17365-17371 17399-17400 17436-17450 17454 17497-17498 17525-17527 17534- 17570 17575-17578 17580-17584 17891-17894 17956- 17962 18001-18003 18008-18012 18020-18022 18038- 18042 18069-18072 18097-18134 18136-18138 18207- 18210 18371-18372 18378-18379 18407-18410 18412- 18418 18421-18425 18492-18494 18500-18518 18536- 18537 18583-18584 18624-18626 18629-18637 18644- 18650 18655-18658 18668-18677 18680-18681 18693 18717-18718 18723-18726 18730-18732 18738-18744 18750-18756 18759-18766 18771-18772 18778-18780 18787-18793 18802-18804 18822-18834 18836-18853 18856-18880 18904-18905 18910 18915-18918 18925- 18935 18941 18944-18945 18947-18950 18955-18959 18964-18973 18975 18996 19001-19004 19011-19012 19018 19029-19039 19045-19048 19054-19055 19062- 19065 19068-19083 19096-19118 19132 19134 19138- 19140 19148 19153 19202-19206 19209-19210 19213- 19220 19225 19228-19229 19251-19252 19257 19266- 19267 19271-19272 19275-19279 19298-19300 19302- 19303 19306-19307 19355-19364 19368-19370 19380- 19389 19401-19402 19413-19414 19432-19434 19442- 19444 19458-19460 19484-19486 19503 19536 19560- 19562 19564-19578 19586 19598-19601 19604-19608 19617-19622 19625 19627 19656-19657 19659-19661 19667-19668 19672-19688 19693 19733-19748 19757- 19763 19800-19808 19813-19815 19921-19929 19933- 19938 19940-19946 19948-19949 19958-19963 19965-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19967 19972-19981 19995-20014 20018-20047 20053- 20063 20069-20073 20087-20094 20099-20102 20106- 20112 20114-20120 20122-20127 20133-20136 20149- 20150 20167-20179 20189-20194 20198-20214 20231- 20241 20253 20257-20278 20281-20282 20288 20317- 20320 20340-20341 20345-20354 20366-20368 20411- 20413 20415-20436 20447-20451 20469-20479 20482- 20494 20497-20498 20501-20503 20505-20520 20524- 20535 20547-20553 20563-20567 20575-20578 20602- 20612 20614-20619 20621-20624 20631-20634 20639- 20640 20646-20652 20666-20671 20689-20692 20698- 20707 20712-20717 20727-20734 20747-20751 20758- 20788 20792-20797 20801-20812 20819-20823 20827- 20835 20844-20849 20853-20863 20865-20867 20871 20888-20889 20897-20900 20922-20926 20929-20932 20943 20952-20954 20957-20962 20973-20988 20999- 21004 21016-21025 21027-21031 21046-21071 21076- 21151 21157-21169 21171-21174 21194-21196 21202- 21207 21229-21232 21241-21252 21256-21262 21267- 21274 21277-21294 21297-21298 21301-21303 21334 21340-21342 21351-21352 21377-21402 21405-21427 21434-21457 21462-21466 21470-21476 21480-21500 21532-21533 21554-21556 21712-21724 21744-21747 21877-21885 21892-21894 21905-21910 21917-21921 21929-21935 21939 21951-21954 21967-21968 21971- 21977 21983-21987 21989-21993 21995-22002 22007- 22015 22019-22036 22040-22041 22047-22055 22060- 22061 22070-22073 22077-22079 22090-22094 22101- 22107 22115-22116 22135-22138 22141-22143 22160- 22168 22171-22184 22187-22192 22195-22198 22208- 22211 22218-22226 22246-22250 22256-22260 22265- 22276 22284-22289 22300-22302 22310-22342 22351 22357-22359 22377-22380 22389-22392 22399-22408 22411-22432 22440-22448 22495 22534-22539 22551- 22559 22561-22565 22570-22581 22599-22602 22607- 22609 22618-22628 22632-22633 22644-22651 22653- 22654 22661-22662 22665-22667 22669-22674 22680- 22684 22690 22696-22697 22700-22701 22703-22707 22760-22764 22767-22774 22801-22804 22810-22816 22823-22827 22846-22849 22852-22853 22870-22874 22904-22906 22925-22938 22948-22950 22962-22970 22973-22976 22982-22986 23007-23021 23046-23050 23053-23055 23059-23060 23063 23080-23083 23112- 23119 23141 23212-23215 23229-23233 23237-23239 23245 23247 23251-23256 23263 23279-23281 23343- 23344 23358-23360 23375-23385 23392-23395 23402- 23411 23428-23430 23439-23447 23475-23479 23487 23492-23493 23515-23523 23545-23548 23555-23565 23587-23593 23599 23673-23686 23690 23692-23693 23704 23725 23760-23761 23770-23780 23793-23797 23802-23809 23827-23835 23839-23840 23843-23848 23865 23881 23883-23889 23941-23956 23959 23990- 23992 24002-24004 24014-24018 24029-24041 24044- 24045 24056-24116 24120-24129 24145-24162 24194- 24196 24749-24754 25085-25090 25279-25288 25300-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			25304 25314 25319-25321 25323-25325 25342-25343 25347-25354 25359-25363 25370-25372 25374-25375 25382 25403-25407 25522-25531 25534-25536 25966- 25968 26033-26049 26196-26199 26205-26206 26209- 26213 26221-26223 26240-26243 26248-26251 26261 26266 26270-26279 26285-26290 26347-26348 26354- 26355 26359-26365 26373-26374 26378-26381 26409- 26410 26414 26423 26431 26446-26447 26469-26470 26559-26560 26586-26602 26617-26628 26657-26661 26665-26666 26684-26686 26705-26707 26719-26726 26741 26746 26748-26754 26796-26798 26806-26812 26876-26878 26980-26984 27012-27014 27037-27038 27044-27047 27067-27073 27100-27102 27114-27120 27129-27132 27142-27149 27154-27155 27180-27187 27203-27205 27218 27229-27232 27240-27244 27269- 27270 27283-27287 27299-27301 27304-27305 27340- 27342 27372-27375 27379-27380 27401-27410 27414- 27431 27438 27441-27443 27456-27459 27487-27488 27493-27495 27510-27511 27520-27521 27548-27549 27557-27559 27586-27587 27600-27601 27633-27634 27640-27641 27674-27676 27740-27756 27758-27768 27812-27813 27819-27820 27890-27892 27928 27995- 27997 28040-28041 28045-28047 28050-28059 28097- 28100 28105-28107 28133-28140 28234-28254 28278- 28279 28290-28295 28305-28316 28347-28349 28365- 28370 28440-28460 28463-28488 29117-29123 29265- 29267 29278-29283 29304-29314 29321-29326 29328- 29331 29339-29340 29354-29357 29367-29404 29409- 29416 29427-29431 29594-29604 29718-29721 29872- 29875 29938-29953 29962-29963 30085-30087 30195- 30199 30221-30232 30240-30250 30325-30327 30361- 30368
fetal liver-spleen	Columbia University	FLS003	674-675 6773-6774 8070 8434-8448 11226-11227 15588- 15589 16652 16851-16853 17958-17962 18642-18643 18773-18776 18802-18804 19275-19279 19375-19379 20189-20194 20263-20264 20602-20606 21256-21262 22265-22270 23890-23892 24772-24774 27193-27200 28424
fetal liver	Invitrogen	FLV001	3-4 10-14 112 170-171 255-256 713-715 847-848 969- 971 981-985 1001-1003 1097-1098 1123-1127 1142-1164 1273-1279 1470 1625 1918-1927 2058 2272-2274 2414 2471-2474 2476 2663-2665 2871-2873 2939-2943 2948- 2949 3001 3021-3022 3164 3255-3259 3374-3377 3485- 3486 3512-3521 3555-3558 3624 3708 3735-3736 3768- 3769 3818-3819 3949-3953 4562-4568 4600-4601 4623- 4639 5480-5482 5803-5804 5856-5858 5899-5902 6011- 6021 6166-6168 6551-6567 6932-6938 7216-7219 7421- 7423 7534-7535 7678-7680 7745-7746 7902-7903 7924- 7925 7957 8070 8090-8093 8101-8104 8113-8116 8132- 8136 8157-8159 8230-8232 8253-8257 8274-8276 8416- 8419 8434-8448 8512-8513 8588-8597 8689-8690 8771- 8776 8936-8938 9305 9391-9392 9475-9476 9581-9584 9735-9738 9743-9744 9768-9769 9828 9833-9834 9909- 9912 9969-9980 9984-9985 10326-10328 10474-10476 10480-10482 10498-10503 10592-10594 10603-10606

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			10870-10872 10881-10883 10907-10910 10913-10914 10936-10937 11022-11023 11123-11124 11345-11350 11423-11426 11658-11659 11669-11672 11679 11757- 11758 11873-11875 12050-12056 12140 12190-12191 12455-12459 12470-12471 12637 12676-12678 12723 12943 12948-12962 12978-12981 12997-12999 13629- 13631 13638-13641 14044-14045 14116 14460-14462 14604 14640-14642 14818-14820 15011-15012 15019- 15024 15126-15129 15277-15278 15329-15331 15576- 15577 15661-15663 15855-15857 15886-15887 16174- 16176 16290-16295 16403-16407 16422-16429 16496- 16497 16545 16576-16577 16599-16608 16851-16853 17026-17028 17150-17152 17268-17274 17454 17924- 17926 17958-17962 18001-18003 18010-18012 18395- 18397 18516-18518 18536-18537 18585-18586 18644- 18650 18655-18658 18771-18772 18789 18829-18834 18846-18853 18897-18898 18919-18921 18975 18996 19012 19096-19101 19251-19252 19274 19295-19303 19308-19309 19345-19349 19372 19390-19402 19422- 19431 19441-19444 19514 19563 19617-19619 19625 19679-19682 19698 19700-19705 19727-19732 19772 19814-19815 19819-19822 19926-19929 19933-19937 19943-19946 19948-19950 19965-19967 19972-19980 20133-20145 20161-20164 20167-20171 20189-20194 20215-20218 20257-20264 20271-20278 20281-20282 20289 20321-20324 20336-20338 20340-20341 20366- 20368 20393-20400 20432-20451 20456-20468 20514- 20520 20563-20567 20575-20578 20607-20612 20620 20625-20628 20683-20685 20836-20843 20868-20870 20927-20932 20943 20948-20949 20952-20954 21058- 21059 21101-21111 21157-21169 21197-21198 21208- 21210 21248-21252 21326-21333 21351-21352 21470- 21476 21480-21482 21495-21500 21899-21902 21917- 21921 21925-21928 21958-21966 21983-21987 22000- 22015 22019 22047 22074-22076 22092-22094 22101- 22107 22161-22164 22169-22170 22204-22207 22218- 22226 22256-22260 22277-22283 22318 22343-22348 22495 22551-22552 22571-22581 22625-22628 22680- 22684 22708-22709 22760-22762 22810-22816 22823- 22827 22852-22853 23047-23050 23080-23083 23201- 23202 23419 23433-23437 23473-23474 23487 23599 23673-23674 23731-23736 23761 23793-23797 23845- 23848 23876-23877 23882 23890-23892 23903-23904 23941-23956 23999-24001 24005-24011 24056 24772- 24774 25293-25297 25315 25322-25325 25331-25333 25336-25337 25374-25375 25676-25679 25966-25968 26024-26028 26033-26049 26196-26199 26205-26206 26266 26327 26347-26348 26350-26352 26359-26360 26383-26385 26409-26411 26843 26853-26854 26860- 26862 27218 27222-27224 27304-27305 27372-27375 27439-27443 27510-27511 27518-27521 27544-27545 27636-27639 27649-27654 27814-27815 28087-28091 28105-28107 28186 28234-28254 28365-28370 28424 28426-28428 28533-28539 29409-29417 29508-29518 29718-29721 29960-29961 30061 30085-30087 30224-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			30232
fetal liver	Clontech	FLV002	3461-3463 6331-6334 7757-7759 10638-10639 14098-14099 14261-14263 20180-20181 23007-23021 23555-23565 27317-27322 28277
fetal liver	Clontech	FLV004	218-219 1436-1437 5370 7216-7219 8247-8248 8512-8513 8936-8938 9854-9855 10640-10644 11842 12121-12126 12824-12827 16226-16227 16470-16472 16652 17924-17926 18500-18501 18516-18518 18527 18723-18726 18778-18780 18964-18969 19211-19212 19370 19401-19402 19422-19431 19461 19583-19585 19736-19742 19919-19920 19924-19925 19943-19946 20208-20214 20437-20440 20792-20797 20948-20949 21277-21280 21470-21476 22265-22270 22690 22730-22731 22846-22849 22881-22886 23047-23050 23356-23357 25319-25321 25323-25325 25966-25968 26843 27504-27507 29343-29345
fetal muscle	Invitrogen	FMS001	158-159 180-181 251-252 551-552 697-699 716-717 832-836 847-848 1123-1127 1371 1717-1719 2254-2258 2440-2444 2793-2799 2923-2924 3039 3107-3108 3377 3507 3555-3558 3686-3691 3773-3774 4127-4128 4343-4346 4388-4390 4536-4538 4561-4568 4691 4795-4809 5372-5375 5965-5966 6403-6404 6669-6670 7209-7212 7620-7621 7681-7687 7695-7696 7745-7746 7815-7818 7891-7895 7921-7925 7946 7990-7992 8090-8093 8132-8136 8162 8253-8257 8310 8313-8314 8345-8348 8598-8600 8612-8616 8768-8770 8869 9306-9311 9321-9323 9343-9346 9366-9368 9479-9481 9491-9493 9517-9521 9828 9848-9850 9898 9927-9928 10306 10320-10323 10451-10453 10491-10493 10638-10639 10895-10898 10936-10937 11217-11219 11297-11299 11317 11345-11350 11372-11396 11731-11734 11835-11836 11840 12121-12126 12129-12130 12455-12459 12465 12467 12569-12570 12723 12743-12750 12978-12981 13581-13583 13592-13595 13638-13641 13885-13887 13925-13926 14137-14138 14270-14273 14604 14640-14642 14875 15009 15151-15157 15243-15248 15600-15601 15623-15626 15863-15866 16137 16147-16151 16174-16176 16352-16353 16576-16577 16619-16621 16836-16842 17114 17330-17332 17335-17339 17455-17456 17958-17962 18008-18009 18029-18030 18400-18402 18412-18418 18421-18422 18500-18501 18671-18672 18781-18783 18789 18802-18804 18856 18923-18924 18942 19135-19137 19273 19306-19307 19355-19360 19362-19364 19370 19380-19384 19390-19400 19422-19431 19503 19586 19667-19668 19679-19682 19700-19705 19800-19803 19813-19815 19939 20029-20043 20151-20154 20161-20164 20200-20214 20231-20234 20263-20273 20281-20282 20289 20328-20330 20361 20401-20405 20437-20440 20491-20494 20514-20520 20681 20727-20732 20871 20897-20900 20952-20954 20957-20962 20977-20984 21005-21008 21015 21123-21127 21157-21169 21171-21174 21208-21210 21223-21224 21229-21232 21284-21294 21301-21303 21351-21352 21377-21397 21408-21409 21958-21961 21983-21987 22020-22029 22080-22083 22092-22094 22160

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22165-22168 22212-22217 22277-22283 22329-22335 22347-22348 22405-22408 22553-22558 22607-22609 22637-22643 22669-22670 22700-22701 22730-22731 22810-22816 22881-22891 22980-22981 22991-22994 23007-23021 23084 23206-23209 23222 23229-23233 23329-23337 23382-23385 23510-23511 23599 23827- 23833 23941-23956 24014-24018 24446-24448 25085- 25090 25315 25319-25321 25340-25341 25403-25407 26024-26028 26258-26260 26285-26290 26307-26309 26421-26422 26435 26559-26560 26737 26842 26879 27052 27091 27100-27102 27304-27305 27455 27520- 27521 27544-27545 27574-27577 27600-27601 27647 27698-27699 27729-27739 27755-27756 27825-27826 27853-27857 27971 27989-27990 28008-28011 28142- 28145 28311-28313 28424 28426-28428 29278-29283 29332-29337 29956-29957 30141-30142 30189-30194 30236-30239
fetal muscle	Invitrogen	FMS002	534-535 3377 4562-4568 4581-4582 6403-6404 7236- 7237 9018-9020 12194-12196 13638-13641 16545 16851-16853 18044-18045 18655-18658 18802-18804 19153 19254-19255 19370 19422-19431 20263-20264 20289 20437-20440 20625-20628 22020-22025 22212- 22217 22284-22289 22362-22364 22399-22404 22531- 22533 22669-22670 22690 22887-22891 25342-25343 26860-26862 27602-27606
fetal skin	Invitrogen	FSK001	35-38 170-171 192 227-230 315-316 329-330 373-374 425-427 464-465 551-552 579-580 605-606 635 685-688 713-715 718-720 785-786 832-836 969-971 981-985 1001-1004 1031 1053-1057 1097-1098 1123-1127 1169- 1179 1203-1204 1307 1414-1417 1431 1451 1578-1585 1600-1601 1611-1616 1675 1705-1714 1729-1731 1778- 1779 1860 1885-1886 1912-1913 1915-1916 2136-2137 2307 2383-2388 2540-2541 2599-2603 2675-2678 2706 2800 2802-2812 2814-2815 2826-2827 2923-2924 2944 2946 2951-2955 3094-3096 3276-3279 3322-3323 3336- 3337 3352 3377 3477-3478 3507 3526-3529 3531-3534 3555-3558 3686 3715-3716 3773-3774 3834-3835 3855- 3857 3860-3864 3873-3875 3926-3927 3939-3941 3949- 3953 4003-4006 4124-4126 4129-4131 4141-4143 4206- 4208 4213-4214 4343-4346 4358-4361 4441-4443 4489- 4493 4550-4551 4562-4568 4581-4582 4623-4639 4668- 4672 4686-4689 4705-4707 4795-4809 4818 4824-4831 4857-4861 4897-4898 4971-4974 4980-4981 5061-5062 5065 5480-5482 5581-5583 5802 5919-5921 5980-5984 6166-6168 6219-6222 6331-6334 6399 6403-6404 6623 6650 6657-6670 6692-6697 6877-6878 7209-7212 7216- 7219 7258-7263 7296-7298 7447-7449 7536-7541 7580- 7597 7608 7615-7617 7620-7621 7660-7665 7681-7689 7695-7696 7701-7703 7745-7751 7757-7759 7778-7788 7806-7808 7821 7824-7825 7904-7905 7924-7925 7972- 7975 7978-7983 7990-7992 7994 8077-8078 8080-8081 8090-8093 8113-8116 8129-8141 8152-8159 8162 8187- 8200 8216-8218 8242-8246 8253-8262 8274-8276 8310 8313-8314 8326-8327 8347-8360 8368-8369 8375-8376 8415 8434-8452 8487-8488 8502-8503 8536 8539-8542



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			8554-8555 8576-8582 8607-8609 8688 8724-8732 8768- 8770 8939-8945 8978-8981 9026-9028 9031-9036 9038- 9039 9043-9045 9079-9080 9264-9265 9305-9311 9321- 9323 9340-9342 9375-9376 9456-9459 9472-9476 9506- 9509 9517-9518 9531 9535-9537 9561-9562 9590-9592 9594-9602 9689-9707 9735-9738 9759-9762 9780-9781 9828 9846-9852 9854-9855 9857-9861 9867-9868 9874- 9895 9902-9904 9916-9920 9923-9924 9954-9955 9965- 9980 10020-10024 10032-10037 10161-10163 10167- 10172 10254-10261 10480-10482 10495-10503 10513- 10518 10523-10530 10612-10623 10628-10630 10876 10906 10936-10937 10965 11035-11037 11158 11250- 11251 11306-11310 11345-11350 11372-11396 11431- 11432 11465-11466 11473-11474 11496-11498 11609 11612-11639 11669-11671 11731-11734 11745-11748 11757-11758 11780-11782 11803-11804 11835-11836 11840 11901-11905 12011-12013 12112-12114 12140 12173 12175-12176 12280-12282 12374-12377 12422- 12427 12460-12462 12465 12468-12471 12555-12559 12651-12652 12666-12667 12670 12676-12678 12714- 12715 12720-12722 12728-12766 12782-12784 12803- 12804 12823-12827 12943 12978-12981 12997-12999 13077-13079 13100-13106 13503-13511 13596-13597 13603-13605 13609-13612 13629-13631 13638-13641 13652-13659 13834-13837 13865-13866 13930 13999- 14004 14058-14059 14117 14236-14238 14257 14346 14355-14356 14604 14626-14635 14640-14642 14725- 14729 14784-14788 14991-14992 14996 15071-15074 15126-15129 15182-15183 15250-15251 15257 15277- 15278 15300-15301 15341-15342 15358-15359 15404- 15405 15408-15414 15576-15577 15588-15589 15606- 15607 15617-15618 15623-15626 15863-15866 15925- 15931 15988-15990 16030-16040 16044-16046 16059 16121-16122 16168-16171 16174-16176 16200-16201 16345-16349 16365-16366 16370 16388-16391 16422- 16429 16470-16472 16593-16598 16600 16623 16636- 16637 16652 16716-16723 16851-16853 16934-16937 17010-17014 17026-17029 17070-17071 17104-17111 17156-17159 17237 17244-17250 17263-17274 17278- 17326 17335-17339 17454-17456 17571-17574 17958- 17962 18001-18003 18015-18016 18029-18037 18136- 18138 18393-18394 18423-18425 18535 18583-18584 18587-18616 18624-18626 18644-18650 18655-18658 18671-18672 18719-18726 18730-18732 18745-18749 18771-18772 18787-18789 18797-18804 18811-18813 18829-18834 18846-18853 18894-18896 18899-18903 18908-18909 18915-18918 18947-18950 18955-18959 18976-18977 19001-19004 19040 19045-19053 19062- 19065 19074-19080 19135-19137 19142-19147 19224 19228-19229 19251-19252 19258-19262 19266-19267 19306-19307 19316-19317 19341-19342 19350-19354 19362 19368-19370 19375-19384 19395-19400 19407- 19411 19422-19434 19441 19458-19460 19464-19466 19484-19486 19502 19515-19521 19548-19553 19564- 19565 19574-19578 19604-19607 19617-19619 19659-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19661 19663-19666 19670-19671 19683-19688 19693 19700-19705 19727-19742 19764-19767 19813-19815 19921-19929 19933-19937 19943-19946 19972-19981 20029-20043 20087-20094 20120 20130-20145 20161- 20164 20180-20181 20189-20194 20198-20214 20229- 20241 20253 20257-20270 20279-20282 20286-20288 20290-20296 20299 20328-20330 20401-20407 20414 20427-20431 20447-20451 20456-20468 20476-20479 20485-20490 20501 20505-20509 20524-20535 20537- 20545 20548-20553 20559-20567 20629-20630 20639- 20640 20644-20648 20666-20671 20676-20681 20683- 20685 20689-20692 20698-20707 20710-20711 20714- 20725 20727-20734 20747-20751 20753 20767 20789- 20791 20806-20812 20844-20849 20868-20870 20882- 20884 20890-20900 20926 20929-20954 20957-20984 20989-20990 21005-21008 21026-21031 21076-21087 21097-21100 21122 21149-21151 21157-21169 21197- 21198 21208-21210 21213-21215 21225-21226 21241- 21252 21263-21266 21277-21280 21284-21294 21334 21351-21352 21410-21414 21428-21433 21440-21445 21447-21453 21463-21465 21480-21482 21495-21500 21529-21530 21554-21556 21718-21724 21729-21733 21881-21885 21911-21912 21917-21921 21929-21938 21958-21966 21973-21974 21978 21983-21987 22020- 22029 22062-22073 22077-22083 22092-22094 22101- 22107 22141-22143 22160-22168 22176-22177 22195- 22198 22208-22211 22218-22226 22246-22249 22261- 22270 22277-22289 22292-22299 22303-22311 22347- 22350 22358-22359 22362-22371 22373 22375-22380 22393 22433-22435 22495 22534-22539 22560 22566- 22568 22571-22581 22599-22602 22607-22609 22622- 22628 22637-22643 22661-22664 22669-22670 22690 22700-22701 22737-22739 22801-22804 22828-22829 22852-22853 22870-22874 22881-22891 22904-22908 22916-22922 22941-22947 22952-22953 22969-22970 22973 23007-23021 23047-23050 23059-23060 23071 23084 23088-23090 23201-23202 23212-23215 23218- 23219 23229-23233 23252-23256 23263 23356-23357 23364-23370 23373-23374 23379-23381 23386-23390 23392-23395 23409-23411 23415-23419 23433 23470- 23472 23514 23526-23531 23543-23544 23673-23689 23704 23726-23730 23771-23780 23806-23809 23845- 23848 23865-23866 23882 23893-23902 23911-23940 23990-23992 23999-24001 24025 24035-24040 24056 24092-24097 24481-24490 25085-25090 25306-25308 25313 25319-25321 25331-25333 25340-25341 25461- 25470 25598-25603 26024-26028 26196-26199 26207- 26208 26261 26266 26280 26316-26321 26327 26337 26350-26352 26414 26558-26561 26676-26677 26691- 26694 26829-26830 26843 26893-26895 26980-26984 27052 27067-27070 27091 27100-27102 27269-27270 27275-27276 27283-27287 27411-27412 27480-27481 27497 27520-27539 27544-27545 27600-27601 27636- 27639 27649-27654 27677-27688 27726-27728 27755- 27756 27812-27815 27848-27852 27858-27868 27885-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27886 27890-27892 27970 27972 27975 27989-27990 28045-28047 28099-28100 28123-28132 28141-28145 28186 28232-28271 28286 28290-28292 28424 28426- 28428 28446-28448 28456-28457 28533-28539 29278- 29283 29354-29359 29367 29406-29408 29508-29518 29919-29922 30141-30142 30150-30156 30189-30199
fetal skin	Invitrogen	FSK002	333-335 534-535 912 1307 1705-1714 2826-2827 4795- 4809 5279-5283 6877-6878 7216-7219 8612-8616 9729- 9731 9848-9850 9929-9935 10516-10518 11212-11216 11332-11333 11473-11474 12112-12114 12755-12759 13885-13887 14100 14676-14678 15126-15129 15280 15290-15291 17038-17041 18029-18030 18535 18778- 18780 18964-18969 19062-19065 19266-19267 19401- 19402 19441 19919-19920 19943-19946 20072-20073 20106-20110 20161-20164 20733-20734 20948-20949 21005-21008 21334 22169-22177 22230 22277-22283 22534-22539 22653-22654 22661-22662 22669-22670 22690 22702 22852-22853 23051-23052 23085-23086 23229-23233 23543-23544 23839-23840 24005-24011 25334-25335 27154-27155 27498-27500 27989-27990 28148-28156 28269 30150-30156
fetal spleen	BioChain	FSP001	1046 1307 3840-3852 6403-6404 6669-6670 8465 13930 15091-15092 15988-15990 16434-16437 16652 16934- 16937 17038-17041 17958-17962 18516-18518 18536- 18537 18936-18939 19401-19402 19921-19923 20111- 20112 20299 20437-20440 20816-20818 21377-21397 21647-21655 21978 22343-22346 22637-22643 23064- 23065 23771-23780 26843 26860-26862 27544-27545 28142-28145
umbilical cord	BioChain	FUC001	39-41 51-52 144-145 164 170-171 180-181 197-200 251- 252 255-256 373-374 546-547 576-578 619-620 623-625 635 661 716-717 832-836 845-846 895-898 945-946 969- 971 1001-1003 1047 1067-1070 1307 1309 1431 1483 1490-1492 1533 1694-1702 1705-1714 1887-1889 1964- 1966 1977 2030 2072 2136-2137 2275-2276 2299 2445 2471-2474 2550-2552 2599-2603 2774-2775 2814-2815 2893-2894 2923-2924 2939-2943 2951-2955 2975-2977 3001 3151-3154 3205-3207 3276-3277 3310-3312 3322- 3323 3326-3331 3355-3356 3374-3377 3443-3445 3515- 3520 3526-3529 3661-3663 3686 3834-3835 3865-3868 3939-3941 3949-3953 4124-4126 4132-4136 4515-4516 4542 4546 4623-4639 4825-4826 4832-4836 4857-4861 4967-4968 4980-4981 5092-5094 5116 5335-5336 5557- 5560 5744-5747 5802 5887-5897 5919-5921 5939-5941 5973-5975 5980-5984 5986-5988 6084 6300 6386 6403- 6404 6585-6592 6671-6675 6692-6697 6762-6764 6852 7001-7007 7209-7212 7214-7215 7258-7263 7536-7541 7557-7559 7561-7562 7609 7640-7642 7648-7653 7660- 7665 7681-7687 7745-7746 7757-7759 7778-7783 7794 7806-7808 7823-7825 7924-7925 7972-7975 7978-7983 7994 8008-8009 8046 8070 8111 8113-8114 8145-8151 8187-8200 8211-8213 8221-8222 8227-8229 8242-8248 8253-8257 8313-8314 8347-8348 8368-8369 8430-8433 8489 8512-8513 8539-8550 8554-8575 8583-8597 8601- 8603 8607-8609 8751-8753 8917-8933 8936-8938 9031-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9035 9040-9042 9267-9268 9329-9330 9343-9346 9366- 9368 9391-9392 9443 9472-9474 9486-9488 9506-9509 9529-9530 9532-9534 9561-9562 9590-9592 9594-9602 9609-9610 9726-9727 9780-9781 9799-9800 9826 9828 9844-9845 9848-9852 9854-9855 9916-9920 9923-9924 9929-9935 9939-9940 9953-9955 10012 10015-10019 10025-10026 10038-10041 10254-10261 10277-10278 10306 10498-10503 10513-10518 10531-10532 10543- 10549 10592-10594 10609-10623 10638-10639 10873- 10875 10931-10933 10938 10963-10964 10966 11006- 11008 11116-11121 11123-11124 11135 11302-11303 11345-11350 11359-11369 11431-11432 11467-11472 11561-11562 11609 11658-11659 11715-11716 11731- 11734 11803-11804 11835-11836 11842 11873-11875 11878-11879 11901-11905 11935-11936 11947-11950 12127-12128 12133-12134 12140 12202-12205 12221- 12224 12259-12262 12398-12401 12430-12431 12637 12666-12667 12723 12774-12778 12780-12787 12791 12796-12798 12824-12827 12978-12981 13068-13070 13077-13079 13083-13086 13505-13511 13560-13562 13571-13573 13592-13595 13838-13842 13865-13866 14004 14058-14059 14118-14124 14130-14131 14141- 14142 14166-14168 14170-14172 14192-14195 14236- 14238 14261-14263 14270-14273 14304-14305 14498- 14501 14604 14607-14609 14640-14642 14684-14685 14708 14726-14729 14784 14789-14791 14875 15096 15182-15183 15218-15219 15243-15248 15257 15290- 15291 15412-15414 15496-15525 15530-15531 15548- 15550 15576-15577 15612-15618 15699-15700 15855- 15857 15880 15988-15990 16044-16046 16121-16122 16174-16176 16451-16452 16484-16486 16494-16497 16583-16585 16623 16636-16637 16642 16652 16683- 16685 16724-16725 16752-16753 16758-16760 16851- 16853 16938-16939 16974 17026-17028 17038-17041 17074-17077 17120-17122 17153-17154 17233-17234 17286-17291 17327-17339 17454-17456 17538-17565 17958-17962 18015-18016 18044-18045 18069-18072 18097-18134 18411 18421-18425 18427-18429 18492- 18499 18516-18518 18535-18537 18644-18650 18655- 18658 18668-18670 18691-18692 18719-18722 18750- 18756 18759-18760 18767-18769 18771-18772 18787- 18789 18796 18802-18804 18806-18807 18842-18845 18856 18899-18903 18923-18924 18941 18955-18959 18964-18969 18975 19029-19035 19055 19062-19065 19074-19083 19096-19101 19138-19140 19209-19210 19226-19227 19251-19253 19316-19317 19341-19342 19350 19355-19360 19362 19370 19373-19374 19387- 19389 19407-19411 19415-19417 19422-19431 19438- 19440 19442-19444 19461 19487 19497 19503 19515- 19521 19526-19531 19560-19562 19566 19574-19578 19580-19586 19598-19601 19604-19607 19627 19667- 19668 19670-19671 19693 19698-19705 19733-19735 19743-19748 19764-19771 19804-19808 19813 19921- 19925 19933-19937 19943-19946 19953-19957 19965- 19967 19969-19971 19981 19995-20014 20029-20043

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			20048-20052 20074-20079 20087-20094 20106-20110 20114-20120 20122-20127 20130 20149-20150 20161- 20166 20172-20179 20182-20194 20198-20199 20208- 20214 20241 20263-20270 20289 20298-20304 20316 20328-20330 20345-20354 20401-20405 20427-20451 20485-20494 20497-20498 20524-20535 20548-20558 20563-20578 20599-20601 20616-20619 20625-20628 20631-20634 20649-20652 20681 20698-20707 20753 20767 20788-20797 20813-20815 20836-20843 20855- 20863 20866-20870 20881 20885-20887 20927-20928 20963-20972 20990-21045 21076-21087 21097-21111 21145-21151 21171-21174 21208-21215 21277-21283 21295-21298 21377-21397 21408-21414 21434-21439 21446-21453 21516-21528 21554-21556 21647-21655 21712-21717 21905-21910 21929-21935 21951-21954 21962-21966 21978-21982 21989-21993 22003-22006 22020-22025 22050-22055 22080-22083 22101-22107 22120-22127 22135-22138 22141-22143 22152-22156 22160 22171-22175 22185-22192 22208-22211 22261- 22276 22343-22350 22358-22359 22362-22364 22366- 22371 22373 22399-22404 22434-22435 22455-22465 22495 22534-22539 22570-22581 22599-22602 22622- 22628 22653-22654 22663-22664 22669-22670 22690 22696-22697 22700-22701 22794-22796 22843-22845 22852-22853 22899-22900 22909-22910 22955-22957 22977-22981 23046-23050 23053-23055 23071 23141 23206-23209 23212-23215 23220-23222 23229-23233 23236 23249 23251-23256 23261-23262 23353-23354 23364-23370 23382-23390 23399-23401 23428-23430 23433 23489-23490 23508-23511 23546 23682-23686 23704 23723-23724 23726-23730 23760 23764-23767 23798-23799 23806-23809 23836-23837 23839-23840 23867-23880 23890-23902 23941-23956 23959 23990- 23992 24021-24024 24035-24040 24092-24097 24120- 24129 25085-25090 25289-25290 25306 25319-25321 25340-25341 25359-25363 25368-25369 25374-25375 25403-25407 25416-25417 25598-25603 26196-26199 26207-26208 26266 26280 26285-26290 26327 26337 26373-26374 26394 26563-26566 26603 26615-26616 26676-26677 26687 26691-26694 26806 26843 26860- 26862 26876-26879 26980-26984 27028-27029 27050- 27052 27067-27070 27114-27120 27203-27205 27254- 27260 27271-27272 27501-27503 27557-27559 27562- 27563 27586-27587 27589-27592 27633-27634 27729- 27739 27809-27811 27859-27864 27869-27873 27890- 27892 27989-27990 28099-28100 28105-28107 28142- 28145 28173-28175 28272-28279 28286 28311-28313 28361-28362 28424 28573-28578 29225-29231 29278- 29283 29321-29326 29328-29331 29339-29340 29354- 29357 29378-29379 29960-29961 30141-30142 30150- 30156 30195-30199
fetal brain	GIBCO	HFB001	16 121 144-145 148 152 156-163 177-178 192 197-200 227-230 255-256 282-284 307-308 329-330 332 373-374 395 398-399 419-420 425-427 524-525 532-535 540-542 549 557-561 568-581 635 716-720 750-752 758-762 785-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			786 792-795 825 832-836 845-851 860-861 901-904 912-913 934-935 1001-1005 1044-1045 1047 1067-1071 1097-1098 1101-1103 1112-1113 1123-1127 1165-1168 1205-1206 1228-1231 1235-1237 1246 1273-1282 1312-1313 1411-1417 1423 1431 1453-1454 1467-1470 1499 1667-1668 1675 1755 1792-1794 1961-1962 1980-1982 2015-2018 2083-2084 2136-2137 2202-2203 2275-2276 2348 2354-2355 2383-2388 2404-2406 2420-2421 2471-2474 2550-2552 2576 2599-2603 2679 2706 2724-2726 2745 2806 2871-2873 2903-2904 2926 2934-2935 2951-2955 2975-2977 2983-2986 2988-2989 3205-3207 3276-3277 3290 3322-3323 3336-3337 3352 3355-3356 3361-3362 3364 3374-3377 3421-3422 3433 3441-3445 3468-3471 3477-3478 3507 3512-3514 3555-3558 3612-3613 3729-3730 3781-3784 3860 3949-3953 4080-4082 4091-4095 4124-4126 4151-4157 4206-4210 4248 4343-4346 4486-4487 4489-4493 4515-4516 4526-4527 4531-4533 4562-4573 4581-4582 4612-4614 4651 4726-4727 4785-4789 4825-4826 4975-4978 4980-4981 4984-4985 5065 5084-5085 5092-5094 5109-5115 5190-5191 5335-5336 5376-5378 5382-5383 5470-5477 5480-5482 5517-5521 5525-5526 5557-5560 5572-5573 5587-5592 5659-5698 5710-5711 5768-5772 5802 5808-5812 5899-5902 5907-5909 5919-5921 5943-5945 5973-5975 5980-5984 5986-5988 6029-6035 6088-6089 6166-6168 6400 6403-6404 6406-6410 6450-6453 6488-6489 6523-6526 6542-6543 6657-6661 6669-6670 6775-6778 7001-7007 7056-7057 7209-7212 7216-7219 7236-7237 7256-7257 7325-7340 7536-7541 7557-7559 7611-7612 7615-7621 7630-7636 7657-7659 7666-7673 7681-7689 7698 7701-7703 7726-7727 7734-7736 7747-7751 7778-7783 7794 7798-7801 7806-7808 7824-7825 7890 7902-7903 7916 7921-7923 7957 7972-7975 7978-7983 7988 7990-7992 7994 8002 8017-8019 8070 8077-8079 8117-8121 8137-8156 8162 8187-8200 8219-8220 8242-8248 8250 8253-8257 8313-8314 8349-8350 8368-8370 8409-8414 8466-8476 8497-8499 8512-8513 8536-8550 8607-8609 8612-8616 8688-8690 8736-8737 8754-8766 8919-8933 8982-8983 9007-9008 9013-9020 9029-9030 9038-9042 9072-9074 9196-9200 9306-9311 9316 9321-9323 9331-9333 9335 9337-9339 9391-9392 9443 9459-9460 9482-9485 9487-9488 9506-9518 9522-9525 9531 9535-9537 9561-9562 9570-9576 9617-9626 9664-9665 9682-9683 9688 9729-9731 9735-9742 9828-9832 9851-9852 9854-9855 9873-9895 9898 9902-9904 9923-9924 9927-9928 9956-9959 9969-9980 9984-9985 9989-9992 10032-10040 10167-10172 10263-10264 10273-10274 10277 10306 10326-10328 10451-10453 10470-10473 10484-10487 10498-10503 10508-10512 10531-10532 10588-10591 10600-10601 10603-10608 10615-10623 10628-10630 10638-10644 10881-10883 10913-10914 10938 10963-10964 10980-10985 11066-11068 11123-11124 11135 11143 11161-11197 11200-11201 11204-11207 11297-11299 11308-11310 11317 11326-11327 11399-11402 11431-11432 11460-11464 11468-11472 11476-11478 11607-11608

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			11649-11650 11674-11679 11696 11715-11716 11731- 11734 11739-11740 11761-11763 11766-11768 11786- 11788 11805-11808 11835-11836 11840 11843-11855 11937-11938 12112-12114 12131-12132 12150-12151 12186-12189 12192-12196 12225-12228 12241-12244 12258 12283-12284 12374-12377 12455-12459 12468- 12469 12486-12518 12573-12574 12590-12592 12598 12637 12642-12644 12655-12658 12666-12667 12714- 12715 12723 12725-12727 12755-12764 12785-12787 12796-12798 12829-12830 12832-12834 12898-12899 12997-12999 13077-13079 13107-13117 13576-13579 13585-13588 13592-13595 13606-13608 13627-13628 13632-13633 13638-13641 13645-13651 13796-13797 13865-13866 13873-13875 13885-13895 13898 13918- 13919 13954-13956 13994-13997 14023-14026 14058- 14059 14094 14127-14128 14137-14138 14170-14172 14236-14238 14261-14263 14270-14273 14283-14288 14314-14317 14353-14354 14604 14650-14651 14684- 14685 14714-14717 14789-14791 15013-15018 15070 15093-15095 15162-15164 15182-15183 15225-15230 15243-15248 15250-15251 15257-15259 15290-15291 15323-15324 15341-15342 15358-15359 15392-15396 15406-15407 15412-15414 15443-15452 15530-15531 15545-15546 15563-15564 15576-15577 15588-15589 15600-15601 15699-15700 15780-15788 15855-15857 15867-15870 15884-15885 15961-15963 15988-15990 16059-16061 16075-16079 16096-16099 16121-16128 16141-16143 16152-16153 16168-16171 16224-16225 16233-16235 16281-16283 16296 16371-16372 16418- 16421 16449-16453 16473-16481 16498-16500 16521- 16526 16545 16602-16611 16632-16634 16636-16637 16642 16652 16686-16693 16702-16705 16716-16723 16804-16807 16828-16831 16836-16842 16851-16853 16894-16896 16924 16934-16937 16954-16961 17104 17114 17120-17122 17131-17132 17145-17146 17286- 17291 17330-17332 17335-17339 17454-17456 17489- 17490 17958-17963 18001-18003 18015-18016 18029- 18030 18055-18060 18136-18138 18393-18394 18421- 18425 18427-18429 18492-18494 18500-18501 18516- 18518 18527 18533-18537 18540 18587-18616 18625- 18626 18644-18654 18668-18672 18691-18692 18717- 18726 18730-18732 18738-18744 18750-18756 18761 18771-18772 18778-18780 18784-18789 18796-18804 18825-18834 18842-18845 18856-18880 18882-18888 18899-18903 18919-18935 18947-18950 18964-18969 18983-18985 18989-18990 18996 19001-19009 19011 19018-19024 19029-19035 19055 19062-19065 19074- 19083 19096-19101 19138-19140 19142-19147 19153 19159-19161 19163-19201 19257 19260-19262 19266- 19267 19274 19308-19309 19316-19317 19345-19349 19351-19354 19362 19370 19380-19384 19395-19400 19407-19411 19415-19417 19422-19434 19441-19444 19447-19448 19464-19483 19515-19524 19526-19531 19560-19562 19564-19566 19583-19585 19604-19607 19627 19659-19661 19663-19668 19670-19671 19674-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19678 19683-19687 19693 19700-19710 19727-19748 19759-19763 19772-19800-19808 19810-19815 19819- 19822 19921-19929 19933-19937 19939 19943-19946 19950 19962-19963 19972-19981 20029-20052 20069- 20079 20087-20094 20099-20102 20106-20110 20114- 20120 20122-20127 20133-20154 20165-20166 20172- 20194 20200-20218 20226-20228 20235-20241 20244- 20249 20253 20257-20262 20265-20270 20274-20278 20289 20328-20330 20345-20348 20355-20356 20393- 20405 20415-20417 20425-20431 20437-20440 20447- 20451 20456-20471 20485-20494 20501 20505-20509 20524-20545 20547-20558 20563-20567 20569-20578 20607-20612 20614-20619 20621-20624 20629-20634 20639-20640 20644-20645 20649-20674 20676-20681 20698-20707 20710-20711 20718-20725 20733-20734 20747-20751 20753 20767 20788 20792-20797 20806- 20812 20819-20821 20824-20843 20853-20862 20865 20868-20871 20897-20900 20926-20932 20938-20942 20948-20949 20955-20956 20963-20984 20991 20999- 21004 21021-21023 21060-21061 21069-21075 21097- 21100 21137-21140 21145-21148 21153-21154 21171- 21174 21176-21180 21197-21198 21202-21207 21213- 21215 21229-21232 21237-21240 21248-21252 21256- 21274 21277-21280 21284-21294 21297-21298 21301- 21303 21326-21333 21343-21354 21377-21397 21434- 21439 21447-21450 21454-21457 21463-21465 21477- 21479 21485-21491 21495-21500 21516-21530 21532- 21533 21554-21556 21587-21655 21712-21717 21729- 21733 21877-21885 21892-21894 21911-21912 21915- 21916 21929-21935 21939 21955-21957 21967-21968 21971-21974 21978-21987 21994 22000-22002 22007- 22015 22019-22029 22037-22039 22045-22046 22056- 22069 22074-22076 22087-22088 22090-22094 22115- 22116 22128-22134 22141-22143 22160-22164 22169- 22170 22187-22192 22195-22198 22208-22226 22243- 22245 22261-22264 22271-22289 22300-22308 22312- 22318 22323-22332 22336-22350 22358-22359 22365- 22371 22381-22388 22399-22404 22409-22410 22434- 22435 22495 22531-22539 22553-22558 22561-22565 22570 22599-22602 22607-22609 22618-22621 22625- 22628 22634-22651 22653-22654 22663-22667 22671- 22677 22690 22696-22697 22700-22701 22726-22727 22730-22731 22741-22748 22763-22764 22768-22770 22794-22796 22810-22816 22852-22853 22859-22874 22899-22900 22912-22922 22927-22938 22952-22961 22969-22970 22973-22976 22991-22994 23007-23021 23046-23055 23059-23060 23070-23071 23085-23086 23098-23101 23105-23108 23117-23119 23125-23136 23203-23209 23220-23221 23223-23225 23236-23239 23242-23245 23251 23261-23262 23279-23281 23343- 23344 23356-23357 23382-23390 23400-23401 23415- 23418 23420-23421 23423-23430 23434-23437 23489- 23490 23492-23493 23508-23509 23515-23518 23555- 23565 23599 23682-23686 23700-23701 23704 23718- 23721 23731-23736 23760-23763 23768-23769 23798-



Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			23799 23802-23809 23834-23835 23839-23840 23867-23870 23878-23880 23882 23941-23956 23999-24001 24005-24011 24014-24018 24021-24024 24092-24097 24120-24125 25085-25090 25114-25126 25289-25290 25293-25297 25322 25334-25335 25368-25375 25403-25407 25534-25536 26196-26199 26205-26206 26209-26213 26235-26239 26248-26252 26260 26266 26270-26272 26291-26293 26303 26310-26314 26316-26321 26327 26337 26347-26348 26359-26365 26373-26374 26389-26393 26411 26469-26470 26596-26601 26678-26680 26705-26707 26746 26748-26756 26788-26790 26842 26860-26862 26873-26879 26891-26892 26985-26987 27071-27073 27097 27100-27102 27193-27200 27209-27213 27269-27270 27273-27274 27299-27301 27304-27305 27376 27493-27495 27501-27503 27510-27511 27520-27521 27544-27545 27636-27639 27649-27654 27662-27672 27755-27756 27799-27802 27816-27822 27861-27864 27896-27927 27973-27974 27989-27990 28095-28096 28099-28100 28108-28121 28142-28145 28186 28311-28313 28361-28362 28424 28458-28460 29271 29278-29283 29304-29314 29328-29337 29339-29340 29343-29345 29354-29357 29409-29416 29427-29431 29451-29452 29594-29604 29746-29761 29940-29955 30085-30087 30141-30142 30150-30156 30195-30199 30218-30223 30361-30368
macrophage	Invitrogen	HMP001	534-535 1499 11431-11432 15969-15974 16652 16833-16835 17026-17028 17455-17456 18492-18494 18644-18650 18806-18807 18822-18824 18934-18935 19254-19255 19387-19389 19943-19946 20485-20490 20497-20498 20514-20520 20897-20900 21225-21226 21334 21467-21469 21647-21655 23555-23565 26327 26678-26680 26860-26862 27150-27151 27636-27639 28424 30205
infant brain	Columbia University	IB2002	10-14 28-29 51-52 144-145 192 197-200 282-284 310-314 319-323 373-374 414-418 425-427 534-535 540-542 546-547 576-578 582-588 608-611 718-720 763-776 796-797 825 847-848 852-855 901-904 907 912-913 934-935 947-964 967-968 972 1001-1003 1097-1098 1101-1103 1169-1181 1238-1239 1252-1256 1273-1279 1312-1313 1355-1360 1364-1367 1372-1373 1432-1435 1470 1474 1499 1586-1588 1667-1668 1675 1678-1680 1705-1714 1723 1792-1794 1931-1932 1935-1936 1938 1967 1977 2030-2036 2038 2041-2042 2044-2047 2049-2050 2052-2054 2222-2226 2275-2276 2306 2383-2388 2410-2413 2439 2449-2450 2452-2456 2561-2562 2577-2584 2591 2599-2603 2649-2650 2675-2678 2712-2713 2724-2726 2803-2804 2806 2826-2827 2886-2887 2913-2914 2973-2992 3195-3197 3274-3275 3306-3308 3313-3314 3322-3323 3326-3331 3353-3354 3367-3369 3377 3433 3457-3458 3461-3463 3477-3478 3515-3517 3526-3529 3531-3534 3562-3564 3624-3625 3685-3691 3773-3774 3781-3784 3823-3826 3829 3833 3879-3880 4003-4006 4073-4076 4080-4082 4096 4147-4148 4206-4210 4413-4414 4431-4434 4542 4562-4573 4581-4582 4615-4619 4686-4689 4751-4755 4782-4789 4828-4831 4989-4991 5053-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			5054 5190-5191 5335-5336 5361 5567-5568 5572-5573 5700 5702-5704 5744-5747 5762-5764 5829-5845 5907- 5909 5919-5921 5929-5937 5939-5941 5956-5957 5960- 5964 5973-5975 5986-5988 6038-6039 6137-6139 6170 6235-6237 6403-6404 6406-6410 6511-6519 6775-6778 6855 6861-6862 7056-7057 7191 7209-7212 7216-7219 7236-7240 7258-7263 7299-7301 7304-7316 7362 7452- 7460 7542-7550 7554-7555 7557-7559 7609 7611-7612 7620-7621 7630-7636 7648-7653 7668-7673 7678-7689 7695-7697 7729 7734-7743 7752-7759 7778-7783 7787- 7788 7794 7798-7801 7898-7900 7906-7912 7916 7972- 7975 7986-7987 7995-7997 8002 8017-8019 8041-8042 8064-8067 8077-8078 8087-8093 8095-8096 8122-8124 8152-8156 8162 8187-8200 8204-8205 8234-8241 8247- 8248 8310 8339-8341 8343-8344 8347-8350 8368-8370 8403-8406 8420-8421 8461-8464 8492-8496 8504-8505 8512-8513 8536 8539-8550 8607-8609 8612-8616 8688- 8690 8701-8705 8736-8737 8758-8759 8768-8776 8822- 8835 8917-8918 8939-8945 8982-8991 9013-9020 9031- 9035 9040-9046 9063-9067 9069-9071 9264-9265 9305 9337-9339 9427-9428 9431-9433 9456-9458 9464-9469 9472-9474 9479-9481 9506-9509 9522-9525 9531 9535- 9537 9561-9562 9594-9602 9611-9612 9617-9626 9664- 9665 9676 9719-9722 9726-9727 9729-9731 9745-9756 9801-9802 9828-9832 9854-9855 9864-9866 9874-9895 9899-9901 9927-9928 9946-9952 9969-9980 9997-10009 10011 10017-10019 10033-10037 10161-10163 10167- 10172 10254-10261 10268-10272 10326-10328 10449- 10450 10470-10473 10477-10478 10480-10482 10484- 10487 10491-10494 10498-10503 10520-10522 10531- 10532 10588-10591 10607-10608 10615-10623 10627- 10630 10634-10644 10780-10782 10873-10875 10899- 10902 10913-10914 10919-10922 10936-10937 10972 10976-10978 10980-10985 11022-11025 11135 11198- 11199 11222-11224 11292-11294 11300-11301 11306- 11310 11345-11350 11468-11472 11524-11525 11531- 11534 11541-11543 11609 11656-11657 11721-11729 11772-11776 11805-11808 11840 11842 11901-11905 11937-11938 11941-11944 12040-12044 12112-12114 12141-12146 12149 12194-12196 12206-12208 12215- 12217 12226-12228 12280-12282 12305-12311 12437- 12440 12453 12470-12471 12480-12482 12541-12542 12589-12598 12623-12624 12637 12673-12675 12723 12755-12759 12785-12787 12832-12834 13077-13079 13107-13117 13513 13543-13551 13556-13559 13576- 13579 13584 13592-13595 13638-13641 13645-13651 13668-13672 13752-13753 13838-13842 13918-13919 13954-13956 13999-14003 14023-14026 14038-14041 14044-14045 14054-14056 14065-14089 14098-14099 14123-14124 14141-14142 14170-14172 14209-14215 14236-14238 14283-14288 14355-14356 14360-14369 14456-14458 14561-14568 14604 14640-14642 14650- 14651 14709-14717 14789-14791 14841-14843 15002 15013-15018 15093-15095 15158-15161 15182-15183 15233-15236 15243-15248 15250-15251 15253-15255

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			15257-15259 15277-15278 15283-15286 15326-15328 15358-15359 15397-15398 15415-15437 15473-15475 15530-15531 15543-15546 15551-15556 15567 15588- 15589 15623-15626 15780-15788 15867-15868 15871- 15877 15896-15900 15988-15990 16082 16105 16133- 16134 16168-16171 16202 16345-16349 16359 16365- 16366 16418-16431 16451-16452 16508-16511 16532- 16535 16545 16570-16573 16623 16643-16648 16653- 16655 16662 16702-16703 16714-16723 16802-16803 16833-16842 16851-16853 16860-16870 17074-17081 17153-17154 17238-17242 17286-17291 17297-17306 17489-17490 17924-17926 17958-17963 18010-18012 18029-18030 18395-18397 18407-18410 18412-18418 18423-18425 18500-18501 18516-18518 18527 18535 18583-18584 18644-18650 18655-18660 18668-18677 18691-18692 18719-18722 18730-18732 18750-18756 18759-18761 18777-18780 18787-18796 18815-18821 18825-18834 18836-18838 18842-18845 18857-18880 18899-18905 18910 18919-18921 18923-18935 18947- 18950 18964-18969 18976-18977 18989-18990 18993- 18996 18999 19049-19053 19055 19068-19070 19074- 19080 19093-19101 19106-19118 19132 19148 19153 19159-19161 19207-19208 19213-19220 19228-19229 19251-19252 19257 19266-19267 19308-19309 19316- 19317 19345-19350 19363-19364 19370 19387-19411 19422-19431 19447-19448 19454-19455 19461 19511 19526-19529 19560-19562 19564-19565 19567-19578 19604-19607 19620-19622 19626-19627 19659-19661 19663-19668 19672-19678 19683-19687 19706-19710 19733-19742 19759-19763 19800-19808 19810-19815 19855-19856 19921-19923 19926-19929 19931-19937 19939 19943-19946 19965-19967 19972-19981 20026- 20027 20029-20043 20069-20079 20099-20102 20111- 20112 20120 20122-20127 20137-20154 20157-20164 20167-20171 20180-20181 20189-20194 20198-20207 20235-20241 20274-20278 20281-20282 20290-20296 20317-20324 20328-20330 20345-20348 20393-20407 20415-20417 20421-20431 20437-20455 20469-20481 20485-20490 20511-20513 20524-20535 20547-20553 20559-20562 20568-20574 20607-20612 20614-20619 20635-20636 20646-20648 20676-20680 20683-20685 20689-20692 20698-20707 20712-20725 20727-20732 20747-20753 20767 20806-20812 20819-20821 20824- 20843 20853-20854 20865-20870 20879-20880 20882- 20887 20897-20900 20926 20929-20932 20948-20949 20952-20954 20957-20972 20999-21008 21069-21071 21097-21100 21105-21111 21123-21127 21141-21142 21145-21148 21153-21169 21171-21174 21197-21198 21208-21210 21213-21215 21225-21232 21241-21274 21284-21294 21297-21298 21301-21303 21343-21354 21377-21397 21408-21414 21434-21450 21454-21457 21480-21482 21485-21491 21529-21530 21532-21533 21554-21556 21587-21655 21718-21724 21729-21733 21881-21885 21892-21894 21899-21902 21911-21914 21922-21924 21929-21935 21940-21946 21958-21961

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			21973-21974 21978 21989-21999 22003-22029 22035- 22036 22045-22049 22070-22073 22084-22088 22090- 22094 22098-22100 22108-22116 22120-22138 22144- 22156 22161-22168 22171-22175 22187-22192 22195- 22198 22208-22217 22225-22226 22243-22245 22250 22261-22264 22277-22289 22300-22309 22312-22313 22318 22336-22342 22358-22359 22381-22388 22405- 22408 22434-22435 22531-22539 22553-22558 22561- 22565 22570-22581 22607-22609 22625-22628 22637- 22651 22653-22654 22671-22674 22690 22700-22701 22760-22764 22810-22816 22869 22881-22886 22892- 22893 22916-22924 22941-22947 22955-22957 22969- 22970 22991-22994 23022-23025 23047-23052 23064- 23065 23085-23086 23088-23090 23112-23116 23125- 23136 23212-23215 23223-23225 23229-23233 23242- 23245 23251 23263 23353-23354 23373-23374 23399 23419 23425-23427 23434-23438 23495-23496 23508- 23509 23512-23513 23543-23544 23555-23565 23704 23720-23721 23771-23797 23802-23805 23816-23819 23839-23840 23845-23848 23881 23890-23902 23941- 23956 23999-24001 24005-24011 24014-24018 24021- 24024 24201-24220 24481-24490 24794 25085-25090 25279-25290 25313 25322 25340-25341 25383-25401 25403-25407 25410-25413 25416-25417 25666-25672 25966-25968 26205-26206 26209-26213 26217-26218 26235-26239 26258-26259 26280 26285-26290 26304- 26306 26310-26321 26327 26337 26347-26348 26361- 26365 26373-26374 26412-26413 26423 26436 26469- 26470 26604-26606 26705-26707 26788-26789 26804- 26805 26843 26860-26862 26879 27028-27029 27036- 27038 27067-27070 27100-27105 27201-27202 27288- 27291 27304-27305 27444 27520-27539 27544-27545 27588-27596 27602-27606 27649-27654 27709-27710 27814-27820 27865-27868 27890-27892 27987-27991 27995-27997 28042-28043 28045-28047 28108-28121 28133-28137 28142-28145 28186 28199-28203 28234- 28254 28286 28311-28313 28426-28428 28458-28460 28549-28555 29117-29123 29244 29278-29283 29288- 29289 29296-29308 29328-29331 29339-29340 29343- 29345 29418-29419 29427-29431 29508-29518 29718- 29721 29954-29955 30085-30087 30135-30140 30195- 30199 30205 30218-30220 30233-30235 30240-30242
infant brain	Columbia University	IB2003	144-145 165-166 360-361 619-620 763 796-797 852-855 900 934-935 955-956 981-985 1001-1003 1097-1098 1312-1313 1547 1675 1692-1693 1792-1794 1931 1961- 1962 2072 2439 2675-2678 2710 2724-2726 2886-2887 2934-2935 2951-2955 2975-2977 2983-2986 3182-3187 3322-3323 3353-3354 3377 3681-3682 3781-3784 3936- 3938 4117-4118 4160-4164 4362-4365 4471-4482 4562- 4568 4720-4725 4818 4967-4968 5572-5573 5594-5602 5829-5845 5937 6084 6403-6404 6775-6778 6855 6861- 6862 6877-6881 6959-6960 7542-7550 7615-7617 7630- 7636 7648-7653 7660-7665 7668-7670 7695-7696 7726- 7727 7784-7788 7806-7808 7906-7912 7924-7925 7972- 7975 7978-7983 7990-7992 8017-8019 8087-8089 8129-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			8136 8152-8156 8162-8173 8187-8200 8343-8344 8349- 8350 8368-8369 8383-8389 8404-8406 8509 8612-8616 8688 8733-8753 8939-8945 8992-8994 9013-9017 9069- 9071 9305 9594-9602 9617-9626 9664-9665 9726-9727 9801-9802 9828 9896-9897 9947-9952 9965-9980 9989- 9992 10033-10037 10161-10163 10268-10272 10312 10326-10328 10470-10473 10477-10478 10491-10493 10498-10503 10592-10594 10612-10623 10628-10630 10638-10639 10972 10980-10985 11022-11023 11135 11406-11407 11419-11422 11541-11543 11835-11836 11840 11941-11944 12006-12010 12149 12280-12282 12723 12755-12759 12785-12787 12973-12976 13552- 13559 13609-13612 13638-13641 13865-13866 13885- 13887 14127-14128 14257 14264-14265 14604 14650- 14651 14709-14713 14817-14821 15013-15024 15209- 15210 15243-15248 15257 15326-15328 15397-15398 15406-15407 15863-15868 15884-15885 15890-15895 15988-15990 16133-16134 16434-16437 16545 16570- 16573 16804-16807 17074-17077 17297-17306 17489- 17490 17958-17962 18015-18016 18492-18494 18516- 18518 18535 18655-18658 18673-18677 18691-18692 18730-18732 18750-18756 18759-18760 18778-18780 18790-18793 18815-18821 18839-18845 18919-18921 18925-18933 18947-18950 18996 19045-19048 19074- 19080 19148 19159 19257 19316-19317 19363-19364 19387-19389 19395-19400 19405-19406 19487 19526- 19529 19536 19564-19565 19659-19661 19706-19710 19800-19803 19816-19818 19921-19925 19933-19937 19939 19943-19946 19950 19965-19967 19972-19980 20087-20094 20099-20102 20111-20112 20151-20154 20157-20160 20189-20194 20198-20207 20235-20240 20274-20278 20281-20282 20290-20296 20317-20324 20328-20330 20349-20354 20415-20417 20425-20431 20437-20451 20456-20471 20514-20520 20554-20557 20559-20562 20607-20612 20614-20619 20625-20628 20635-20636 20639-20640 20644-20645 20698-20707 20710-20711 20718-20725 20727-20732 20768-20787 20806-20812 20824-20826 20836-20849 20871 20926 20929-20932 20999-21008 21016-21020 21069-21071 21123-21127 21153-21154 21171-21174 21208-21210 21213-21215 21225-21226 21248-21252 21256-21262 21272-21274 21277-21280 21284-21294 21340-21354 21377-21397 21447-21450 21495-21500 21529-21530 21647-21655 21729-21733 21877-21885 21911-21912 21917-21921 21929-21935 21958-21966 22007-22029 22070-22073 22084-22086 22101-22114 22135-22138 22152-22156 22161-22164 22208-22211 22218-22226 22230 22246-22249 22261-22264 22271-22289 22381- 22382 22394-22398 22405-22408 22434-22435 22495 22570 22644-22651 22669-22674 22690 22700-22701 22743-22748 22760-22762 22810-22816 22861-22868 22881-22886 22971 23047-23050 23112-23116 23201- 23202 23212-23215 23229-23233 23237-23239 23321- 23327 23379-23381 23412-23418 23425-23427 23434- 23437 23526-23531 23555-23565 23704 23793-23797

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			24005-24011 24019-24020 24025 25293-25297 25403-25407-25416-25417 26217-26218 26237-26239 26258-26259 26261 26270-26272 26337 26347-26348 26373-26374 26657-26659 26843 26860-26862 26873-26875 27037-27038 27067-27070 27091 27100-27102 27105 27304-27305 27498-27500 27520-27521 27544-27545 27551-27554 27593-27594 27750-27756 27989-27990 28050-28059 28099-28100 28186 28361-28362 28424-28425 28429 29343-29345 29954-29955 30085-30087 30195-30199 30240-30242 30251-30252
infant brain	Columbia University	IBM002	87-94 576-578 964 1692-1693 2439 3676 3773-3774 3823-3826 4583 6172-6174 6328-6329 6629 7726-7727 8157-8159 8478-8483 8492-8496 9063-9067 9506-9509 9829-9832 10033-10037 10161-10163 11878-11879 12439-12440 12671-12672 12832-12834 15326-15328 15397-15398 17454 18293-18294 18996 19159 19298-19300 19395-19400 19933-19937 20137-20145 20200-20207 20469-20471 20491-20494 20689-20692 20747-20751 20819-20821 20926 21225-21226 21284-21294 21353-21354 22020-22025 22030-22036 22225-22226 22277-22283 22637-22643 23379-23381 23845-23848 23893-23902 23941-23956 23990-23992 26414 26843 27100-27102 27105 27649-27654 29954-29955 30178
infant brain	Columbia University	IBS001	10-14 17-18 461-463 546-547 776 796-797 964 1001-1003 1180-1181 1364 3006-3008 3313-3314 3324-3331 3333 3526-3529 4132-4133 4623-4639 4782-4789 5829-5845 6855 7228-7235 7745-7746 8064-8067 8163-8173 8420-8421 8492-8496 9454-9455 9531 9829-9832 9969-9980 10033-10037 10588-10591 11022-11023 11693-11695 11878-11879 12541-12542 13556-13559 14709-14717 15277-15278 15886-15887 16714-16715 18393-18394 18723-18726 18730-18732 19153 19403-19404 19709-19710 19814-19815 19924-19925 20157-20160 20200-20207 20288 20290-20296 20349-20354 20393-20400 20456-20471 20537-20541 20607-20612 20718-20725 20789-20791 20822-20843 20868-20870 21032-21045 21170 21326-21333 21351-21354 21554-21556 21924 22037-22039 22087-22088 22101-22107 22169-22170 22277-22283 22381-22382 22434-22435 23543-23544 23827-23835 23893-23902 23941-23956 24062-24091 25319-25321 25340-25341 25410-25413 26412-26413 26469-26470 26879 27288-27290 27510-27511 27819-27820 27865-27868 27989-27990 28286 29718-29721
lung, fibroblast	Stratagene	LFB001	156 180-181 197-200 227-230 302 324-325 329-330 332 368-371 395 524-525 528 576-578 716-717 845-848 919-922 969-971 1004-1005 1097-1098 1235-1237 1269-1272 1307 1453-1454 1705-1714 1866-1872 1975-1976 1986-1987 2072 2222-2226 2231-2232 2272-2274 2299 2923-2924 3078-3079 3090 3550-3554 3939-3943 4160-4162 4686-4689 4865-4867 5057-5059 5335-5336 5802 5939-5941 6081-6082 6533-6535 6585-6592 6856-6858 7209-7212 7258-7263 7536-7541 7648-7653 7771 7784-7786 7795-7797 7972-7975 7990-7992 8117-8121 8137-8141 8211-8213 8349-8350 8363-8364 8370 8497-8499 8601-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			8603 8698-8700 8760-8761 8982-8983 8997 9013-9017 9072-9074 9306-9311 9443 9460 9475-9476 9487-9488 9506-9509 9531-9534 9617-9626 9659 9757-9758 9826 9851-9852 9873 9981-9983 10273-10277 10306 10498- 10503 10520-10522 10903 10980-10985 11476-11478 11538-11540 11546 11609 11674-11678 11696 11731- 11734 11739-11740 11766-11768 11803-11804 11835- 11836 11912-11914 12283-12284 12486-12518 12545- 12546 12555-12559 12615-12618 12637 12642-12644 12760-12762 12977-12981 13592-13595 13645-13659 14058-14059 14270-14273 14607-14609 14663-14665 14684-14685 14714-14717 14784 15093-15095 15290- 15291 15302-15303 15548-15550 15568-15575 15855- 15857 16006-16015 16168-16171 16237 16301 16360- 16361 16370 16576-16577 16636-16637 16851-16858 16873-16874 16934-16937 17330-17332 17335-17339 17455-17456 17491-17492 18015-18016 18029-18030 18061 18097-18134 18423-18425 18492-18494 18516- 18518 18536-18537 18682-18688 18719-18722 18750- 18756 18759-18760 18796-18807 18811-18813 18825- 18828 18857-18880 18882-18888 18936-18939 18941 18955-18959 18975 18989-18990 18996 19001-19009 19011-19012 19057-19058 19062-19065 19081-19083 19096-19101 19213-19220 19251-19252 19254-19255 19266-19267 19273 19316-19317 19345-19349 19362- 19364 19370 19373-19374 19385-19389 19395-19400 19442-19445 19503 19530-19533 19598-19601 19625 19709-19710 19756 19813 19819-19822 19921-19925 19939 19969-19971 20044-20063 20106-20110 20130 20146-20148 20180-20188 20243 20253 20257-20262 20288 20300-20304 20345-20348 20360 20421-20424 20469-20471 20485-20490 20542-20545 20563-20568 20575-20578 20629-20630 20698-20709 20718-20725 20733-20734 20747-20751 20758-20767 20788-20791 20836-20843 20863 20879-20880 20897-20900 20929- 20932 20938-20942 20973-20976 20985-20988 21027- 21031 21060-21061 21101-21104 21149-21151 21197- 21198 21236 21272-21280 21351-21352 21361-21374 21451-21453 21744-21747 21917-21921 21951-21954 21978 22003-22006 22141-22143 22160 22187-22192 22261-22264 22271-22276 22284-22289 22314-22317 22343-22346 22349-22350 22358-22359 22365-22371 22373 22495 22534-22539 22632-22636 22644-22651 22663-22664 22797-22800 22843-22845 22854-22856 22899-22906 22955-22957 22974-22979 23046-23050 23063 23066-23067 23070 23141 23218-23222 23249 23358-23360 23386-23390 23409-23411 23486 23515- 23518 23700-23701 23704 23726-23730 23760-23763 23806-23809 24126-24129 25085-25090 25096-25100 25334-25335 25368-25372 26024-26028 26209-26213 26217-26218 26248-26251 26285-26290 26596-26601 26737 26748-26756 26843 26876-26879 26980-26984 27052 27067-27070 27203-27205 27247-27251 27283- 27287 27379-27380 27522-27539 27636-27639 27662- 27672 27861-27864 27896-27927 28099-28100 28108-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			28121 28142-28145 28315-28316 28361-28362 28424 28430-28434 28573-28578 29225-29231 29250-29252 29278-29283 29309-29314 29328-29337 29339-29340 29358 29940-29953 29960-29961 29964-29968 30141- 30142 30150-30156 30233-30235 30361-30368
lung tumor	Invitrogen	LGT002	35-38 51-52 87-94 105 136-138 158-159 167 192 197-200 216 227-230 255-256 260 329-330 333-335 360-361 373- 374 398-399 406-407 419-420 425-427 524-525 528 534- 535 543-545 549 553-554 560-561 619-620 631-633 635 667-668 694-695 697-699 706-707 716-717 777-778 783- 790 792-795 847-848 852-855 901-904 912-913 919-922 964 981-985 1001-1005 1035-1037 1044-1045 1047 1097-1098 1123-1127 1158-1161 1203-1204 1235-1237 1263-1265 1273-1279 1289 1304 1312-1313 1322-1344 1346-1347 1349-1354 1414-1417 1432-1435 1440-1447 1467-1469 1474 1499 1569-1570 1667-1668 1678-1680 1692-1693 1705-1714 1721-1722 1792-1794 1879-1880 1912-1913 1925-1927 1941-1946 1949-1950 1956-1960 2015-2018 2058-2061 2259-2266 2306 2431 2440-2444 2457-2459 2471-2474 2513 2570-2574 2599-2603 2663- 2665 2675-2678 2702-2705 2745 2780 2871-2876 2934- 2935 2939-2944 2951-2955 2975-2977 3006-3008 3037- 3038 3090 3112 3255-3259 3306-3308 3316-3321 3334- 3340 3374-3377 3433 3466 3472-3473 3477-3478 3555- 3558 3561 3676 3686 3729-3730 3789-3794 3817 3827- 3829 3832 3840-3852 3873-3875 3998-4002 4053-4054 4134-4136 4151-4155 4158-4162 4215-4216 4220 4273- 4274 4340-4341 4386-4387 4402-4403 4469-4470 4489- 4493 4531-4533 4542 4562-4568 4581-4582 4620 4623- 4643 4757-4758 4785-4789 4795-4811 4813-4815 4824 4845-4851 4857-4861 4891-4896 4967-4968 4980-4981 4984-4985 5109-5115 5127-5128 5152-5153 5192 5253- 5266 5335-5341 5364 5532-5533 5557-5560 5572-5573 5581-5583 5658 5695-5698 5703-5708 5717-5718 5731- 5742 5766-5767 5802 5805-5807 5827-5828 5919-5921 5928 5943-5945 5973-5975 5980-5984 5986-5988 6163- 6168 6223-6225 6330-6334 6403-6404 6406-6410 6533- 6535 6625-6626 6630-6637 6775-6778 6879-6881 6883 6932-6938 7209-7212 7216-7219 7256-7257 7285-7293 7296-7298 7302-7303 7374 7604-7605 7611-7612 7620- 7621 7624-7629 7640-7642 7671-7673 7678-7689 7701- 7703 7726-7728 7745-7751 7778-7786 7794-7797 7802- 7804 7806-7808 7815-7818 7902-7905 7924-7925 7972- 7975 7977-7985 7988 7993-7994 8002 8008-8009 8025- 8026 8041-8042 8046 8059-8063 8074-8076 8079 8084- 8085 8090-8093 8098-8105 8107-8108 8113-8114 8117- 8121 8129-8136 8142-8144 8162 8178-8181 8184-8185 8187-8200 8211-8213 8216-8218 8242-8246 8253-8257 8271-8273 8313-8314 8323-8325 8339-8342 8349-8360 8363-8364 8368-8369 8371-8374 8430-8433 8449-8454 8497-8499 8502-8503 8510-8518 8534-8535 8588-8597 8607-8609 8612-8616 8688-8690 8698-8700 8768-8779 9013-9017 9028 9037 9063-9068 9072-9074 9196-9200 9266 9306-9311 9337-9338 9375-9376 9382 9391-9392 9444 9454-9460 9475-9476 9510-9518 9522-9525 9529-



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9531 9535-9537 9558 9563-9566 9584 9590-9592 9603- 9604 9609-9610 9617-9626 9676 9728 9735-9742 9757- 9758 9763-9769 9791 9829-9832 9841-9842 9848-9850 9857-9861 9874-9895 9899-9901 9923-9924 9954-9955 9965-10010 10161-10172 10175-10196 10263-10264 10273-10274 10277 10279-10280 10306 10326-10328 10451-10457 10480-10482 10490 10498-10503 10506- 10507 10516-10518 10539-10542 10592-10594 10603- 10608 10612-10614 10638-10644 10873-10875 10877- 10878 10895-10898 10929-10930 10936-10938 10953 10976-10978 10980-10985 11010 11066-11068 11123- 11124 11135 11143 11212-11216 11252-11273 11295- 11296 11300-11301 11306-11307 11339-11344 11359- 11369 11405-11407 11419-11422 11431-11432 11460- 11466 11476-11478 11493-11494 11499-11504 11538- 11540 11584-11585 11644-11648 11651-11655 11660- 11661 11711-11712 11731-11734 11765 11769-11771 11835-11836 11840 11873-11875 11886-11889 11937- 11938 12040-12041 12045-12056 12140 12150-12151 12186-12191 12329-12332 12335 12374-12377 12398- 12401 12468-12471 12477 12486-12518 12545-12546 12565-12568 12571-12572 12590-12592 12637 12666- 12667 12673-12683 12698-12699 12720-12722 12755- 12762 12785-12787 12829-12830 12832-12834 12872- 12881 12943 12965-12967 12978-12981 12997-12999 13077-13079 13540-13542 13563-13564 13576-13579 13585-13588 13592-13595 13598-13600 13603-13605 13627-13628 13632-13633 13638-13641 13873-13875 13918-13919 13925-13926 13931-13933 13998-14004 14044-14045 14054-14056 14058-14059 14137-14138 14166-14172 14209-14226 14236-14238 14299-14305 14355-14356 14390 14498-14501 14546-14549 14645- 14648 14718-14720 14784 14789-14791 14809 14999- 15001 15019-15069 15093-15096 15142-15150 15182- 15183 15187-15189 15195-15196 15233-15236 15243- 15248 15257-15259 15290-15291 15321-15328 15332- 15335 15392-15396 15406-15407 15412-15414 15454- 15456 15496-15525 15536-15537 15545-15546 15561- 15562 15576-15577 15586 15588-15589 15600-15601 15623-15626 15631-15632 15855-15857 15869-15870 15880 15884-15885 15961-15963 15983-15984 15988- 15990 16041-16046 16141-16143 16145-16146 16174- 16176 16365-16366 16403-16407 16451-16452 16470- 16472 16479-16481 16508-16511 16545 16558-16562 16576-16577 16602-16611 16623 16636-16637 16652- 16655 16661 16672-16674 16716-16723 16730-16733 16802-16803 16828-16831 16851-16858 16894-16896 16910 16934-16937 16942 17058-17064 17104 17114 17119 17127-17132 17145-17146 17153-17154 17235- 17237 17330-17332 17335-17339 17454 17857-17861 17930-17931 17958-17962 18015-18016 18029-18030 18271-18272 18376-18377 18412-18418 18423-18425 18495-18501 18516-18518 18527 18579-18581 18633- 18637 18644-18650 18655-18658 18668-18670 18673- 18677 18680-18681 18691-18693 18717-18726 18730-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			18732 18745-18758 18761 18773-18789 18796 18802- 18804 18806-18807 18825-18828 18839-18853 18855 18857-18880 18882-18888 18894-18905 18923-18935 18944-18945 18964-18969 18975-18977 18993-18996 19005-19009 19012 19045-19053 19057-19065 19074- 19080 19084-19085 19134 19138-19140 19142-19148 19153 19224 19273 19283-19294 19298-19300 19302- 19303 19306-19307 19316-19317 19350-19354 19362- 19364 19370 19380-19384 19387-19402 19415-19417 19422-19434 19441-19444 19454-19455 19458-19460 19488-19493 19503 19514 19526-19529 19532-19533 19560-19562 19564-19573 19598-19601 19608 19617- 19619 19627 19667-19668 19670-19678 19693 19727- 19751 19759-19763 19772 19814-19815 19819-19822 19855-19856 19921-19925 19933-19938 19943-19946 19950 19953-19957 19965-19967 19972-19980 20015- 20017 20026-20027 20029-20043 20048-20052 20069- 20071 20087-20094 20099-20102 20111-20112 20122- 20127 20131-20132 20137-20150 20157-20160 20165- 20166 20172-20179 20200-20218 20235-20240 20244- 20249 20253 20271-20280 20286-20287 20289 20317- 20320 20328-20330 20336-20338 20345-20348 20361 20366-20374 20393-20405 20414 20418-20420 20432- 20446 20456-20479 20485-20490 20497-20498 20501- 20503 20510-20523 20548-20557 20559-20567 20575- 20578 20607-20612 20614-20619 20621-20628 20646- 20652 20676-20681 20683-20685 20698-20707 20718- 20725 20727-20734 20747-20751 20753 20758-20766 20789-20791 20806-20812 20816-20818 20822-20854 20858-20870 20885-20887 20890-20900 20922-20928 20938-20943 20952-20954 20957-20988 20999-21008 21032-21045 21060-21066 21072-21075 21112-21114 21122-21127 21133-21135 21149-21151 21157-21169 21194-21198 21225-21226 21233-21235 21241-21252 21256-21271 21277-21294 21334 21351-21355 21359- 21360 21377-21397 21410-21414 21428-21433 21447- 21450 21467-21469 21480-21482 21485-21491 21516- 21528 21647-21655 21712-21724 21744-21747 21881- 21885 21892-21894 21905-21912 21925-21935 21955- 21957 21962-21966 21978 21995-22029 22047 22056- 22059 22062-22069 22074-22076 22084-22086 22090- 22091 22141-22143 22160-22168 22187-22194 22208- 22211 22250 22253-22255 22261-22289 22300-22308 22310-22317 22323-22328 22333-22350 22357 22373 22405-22410 22440-22448 22455-22465 22495 22531- 22539 22607-22609 22621-22628 22634-22636 22644- 22651 22653-22654 22661-22662 22671-22674 22690 22696-22697 22700-22701 22741-22742 22760-22764 22794-22796 22810-22816 22838-22849 22852-22853 22887-22891 22923-22938 22948-22950 22952-22954 22977-22986 22991-22994 22999-23006 23046-23050 23059-23060 23070-23071 23074-23076 23098-23101 23125-23136 23138-23140 23206-23209 23212-23215 23223-23228 23247 23252-23256 23261-23263 23328 23343-23344 23382-23390 23402-23411 23419 23433

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			23439-23450 23473-23474 23486-23487 23489-23490 23492-23493 23512-23513 23526-23531 23543-23544 23555-23565 23675-23681 23690 23704 23726-23730 23760-23763 23770 23806-23809 23827-23833 23838- 23842 23871-23875 23878-23880 23890-23892 23941- 23956 23990-23992 23999-24001 24021-24024 24029- 24033 24056 24116 24665 24772-24774 25017-25026 25293-25297 25306 25309-25310 25315 25319-25321 25334-25335 25340-25341 25355-25358 25368-25369 25373-25377 25383-25401 25410-25413 25966-25968 26024-26028 26196-26199 26205-26206 26235-26239 26248-26252 26260 26270-26279 26292-26293 26305- 26306 26327 26337 26341-26344 26361-26365 26421- 26422 26431 26469-26470 26479-26546 26556 26559- 26560 26596-26601 26607-26609 26657-26659 26681- 26683 26737 26748-26756 26776-26781 26806 26813 26843-26845 26860-26862 26873-26879 27039 27067- 27070 27074-27079 27100-27102 27150-27151 27173- 27174 27206 27209-27213 27216-27218 27269-27270 27275-27276 27280 27283-27287 27304-27305 27354- 27357 27439-27444 27501-27507 27544-27545 27548- 27549 27562-27563 27600-27601 27636-27641 27649- 27654 27662-27672 27700-27701 27714-27717 27726- 27728 27750-27756 27814-27818 27845-27852 27861- 27864 27888-27889 27896-27927 27989-27990 27992- 27994 28045-28047 28050-28059 28095-28096 28099- 28100 28105-28121 28133-28137 28142-28147 28161 28169-28203 28255-28261 28290-28292 28311-28313 28315-28316 28424 28426-28428 28573-28578 29250- 29252 29278-29283 29328-29337 29339-29340 29354- 29358 29406-29417 29508-29518 29529-29534 29594- 29604 29655-29659 29718-29721 29938-29953 30085- 30087 30141-30142 30195-30199 30224-30232 30240- 30250 30361-30368
lymphocytes	ATCC	LPC001	310-314 332 360-361 373-374 464-465 506 576-578 792- 795 912 934-935 1123-1127 1273-1279 1334 1432-1435 1470 1667-1668 1705-1714 1721-1722 1971-1974 2015- 2018 2086-2087 2234-2235 2275-2276 2389 2396-2400 2570-2574 2599-2603 2923-2924 2988-2989 2993 3001 3006-3008 3078-3079 3110-3111 3244 3326-3331 3441- 3442 3508-3510 3781-3784 3860 3878 3913-3915 3939- 3941 4137-4139 4151-4155 4203 4221-4238 4255 4343- 4346 4531-4533 4751-4755 4891-4896 4971-4974 5057- 5059 5082 5180 5269-5271 5525-5526 5530-5533 5717- 5718 5943-5945 5980-5984 6081-6082 6769-6778 7368- 7369 7447-7449 7536-7541 7561-7562 7580-7597 7609 7630-7636 7671-7673 7678-7687 7693-7694 7726-7727 7734-7736 7742-7743 7778-7783 7794 7806-7808 7906- 7912 7924-7925 8002 8084-8085 8203 8211-8213 8247- 8249 8342 8349-8350 8368-8369 8383-8389 8453-8454 8512-8513 8537-8538 8607-8609 8688-8690 8736-8737 8758-8759 8762-8766 8768-8770 8914-8916 9037 9264- 9265 9408-9414 9427-9428 9460 9506-9509 9517-9518 9526-9531 9535-9537 9676 9735-9738 9763-9767 9815- 9820 9828 9851-9852 9909-9912 9916-9920 9962-9964

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9986-9988 10033-10037 10146-10163 10167-10172 10197-10252 10306-10311 10516-10519 10533-10534 10551-10554 10595-10599 10870-10872 10895-10898 10904-10905 10913-10914 10936-10937 10980-10985 11042-11044 11123-11124 11135 11159 11406-11407 11431-11432 11468-11472 11493-11494 11554 11603- 11606 11766-11768 11878-11879 12006-12013 12050- 12056 12150-12151 12439-12440 12470-12471 12475- 12476 12555-12559 12565-12568 12615-12618 12637 12642-12644 12673-12675 12723 12805-12806 12823- 12830 12835-12867 12872-12881 12977-12981 13576- 13579 13598-13600 13632-13633 13638-13641 13922- 13924 13927-13929 13954-13956 14304-14305 14346 14604 14785-14786 14800 14802-14808 15070 15141 15151-15157 15233-15236 15250-15251 15305 15326- 15328 15408-15411 15460-15461 15545-15546 15623- 15632 15869-15870 15890-15895 16174-16176 16226- 16227 16284-16289 16614-16615 16628-16631 16649- 16651 16730-16733 16851-16853 17105-17106 17153- 17154 17380-17395 17398 17677-17681 17924-17926 18015-18016 18412-18420 18492-18494 18516-18518 18527 18659-18660 18730-18732 18745-18756 18761 18773-18777 18796 18802-18804 18822-18828 18842- 18845 18897-18898 18925-18933 18964-18969 18976- 18977 19029-19035 19055 19059-19061 19081-19083 19154-19155 19213-19220 19251-19252 19306-19307 19316-19317 19351-19354 19370 19415-19417 19441 19484-19486 19512-19513 19548-19553 19604-19607 19659-19661 19663-19666 19670-19671 19688 19698 19706-19708 19768-19771 19813-19815 19933-19939 19943-19946 19953-19963 19965-19967 19969-19980 19995-20014 20029-20043 20048-20052 20106-20110 20137-20148 20161-20164 20172-20179 20182-20188 20208-20214 20229-20230 20265-20270 20289 20299 20349-20354 20366-20368 20427-20431 20441-20446 20485-20494 20497-20500 20524-20535 20542-20545 20602-20606 20614-20615 20631-20634 20641 20646- 20652 20683-20685 20698-20707 20718-20725 20727- 20734 20792-20797 20806-20812 20824-20835 20885- 20887 20890-20900 20927-20928 20938-20942 20952- 20954 20963-20972 20977-20984 21027-21031 21062- 21068 21076-21087 21097-21100 21105-21111 21145- 21156 21170-21175 21194-21207 21211-21212 21233- 21235 21241-21247 21277-21280 21284-21294 21301- 21303 21458-21461 21463-21465 21480-21482 21495- 21500 21917-21921 21924 21962-21966 21973-21974 21983-21987 22000-22002 22007-22015 22019 22077- 22079 22092-22094 22117-22119 22161-22168 22187- 22194 22208-22211 22218-22224 22253-22255 22284- 22289 22314-22317 22319-22322 22336-22346 22399- 22408 22440-22448 22495 22607-22609 22634-22636 22661-22662 22700-22701 22707 22823-22827 22835- 22837 22861-22868 22941-22947 23022-23025 23046 23064-23065 23070 23125-23136 23206-23209 23212- 23215 23242-23244 23261-23262 23264-23278 23356-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			23357 23379-23381 23392-23395 23400-23401 23494 23508-23509 23555-23565 23731-23736 23762-23763 23841-23842 23845-23848 23883-23892 23906-23910 24014-24018 24056 24772-24774 25213-25219 25293- 25297 25309-25310 25323-25325 25331-25333 25336- 25337 25340-25341 25347-25354 25436-25440 25598- 25603 26280 26307-26309 26341-26344 26373-26374 26603 26684 26691-26694 26843 26860-26862 26873- 26875 26879 26893-26895 27074-27077 27218 27304- 27305 27510-27511 27544-27545 27550 27564 27640- 27641 27767-27768 27814-27815 27819-27820 27970 27989-27990 28097-28098 28133-28137 28286 28315- 28349 28365-28370 28424 28426-28428 28468-28484 28511-28513 29328-29331 29339-29340 29343-29345 29370 29427-29431 29594-29604 29718-29721 29940- 29953 30085-30087 30130-30134 30195-30199 30205 30361-30368
leukocyte	GIBCO	LUC001	10-14 42-44 51-52 112 156 164 167 170-171 177-178 180-181 197-200 202-203 206-211 221 227-230 255-256 259 282-284 289-292 319-327 329-330 332-335 339 343- 353 357-363 366-367 372-374 395 398-399 414-420 425- 427 464-465 505-506 509-519 522-525 527-528 534-535 540-542 546-547 549 576-578 591-593 626-630 635 656 667-668 706-707 758-759 785-786 792-795 825 847-848 852-855 880-882 901-904 912-913 919-922 934-935 945- 946 981-985 1001-1003 1005 1028 1044-1045 1047 1065-1066 1101-1103 1109-1110 1123-1127 1153-1155 1169-1179 1203-1204 1235-1237 1246 1269-1282 1307 1312-1313 1334 1346-1347 1431-1435 1453-1454 1467- 1470 1474 1476-1478 1499 1569-1573 1667-1668 1705- 1714 1721-1722 1770 1777 1792-1794 1860 1879-1880 1887-1889 1912-1913 1967 1980-1982 1986-1987 2015- 2018 2023-2034 2052-2054 2062 2072 2086-2087 2202- 2203 2222-2226 2267-2269 2272-2276 2383-2388 2437 2460-2461 2471-2474 2540-2541 2599-2603 2656-2658 2780 2806 2846 2874-2876 2905 2918-2919 2923-2924 2934-2935 2951-2955 2983-2986 2988-2989 2993-3010 3014-3019 3026-3033 3105-3108 3144-3146 3205-3207 3241 3244 3255-3259 3265 3274-3277 3290 3306-3308 3310-3311 3326-3331 3352 3355-3356 3365 3374-3378 3421-3422 3433 3477-3478 3507-3510 3512-3520 3550- 3558 3649-3653 3681-3682 3693 3729-3730 3741-3753 3760-3762 3768-3769 3781-3784 3834-3835 3840-3852 3873-3875 3949-3953 4091-4095 4119-4120 4137-4139 4141-4143 4160-4162 4200-4203 4209-4210 4255 4266- 4274 4367-4368 4386-4390 4486-4487 4489-4493 4531- 4533 4555-4556 4562-4576 4581-4582 4612-4614 4640- 4643 4666 4692-4694 4712-4713 4720-4727 4785-4789 4833-4836 4857-4861 4971-4974 4980-4981 5057-5059 5082 5092-5094 5119-5120 5192 5253-5266 5269-5271 5285-5287 5335-5336 5480-5484 5499-5501 5510 5522 5525-5536 5557-5560 5572-5573 5579-5580 5700 5766- 5767 5802 5805-5807 5823 5846 5910-5921 5932-5936 5946 5973-5975 5980-5984 6103-6104 6106-6109 6135- 6136 6154-6159 6175 6331-6336 6388 6395 6400 6403-

Tissu origin	RNA Source	Library Name	SEQ ID NOS:
			6404 6450-6451 6516-6519 6523-6526 6533-6535 6542- 6543 6551-6567 6585-6592 6638-6639 6772-6774 6791- 6794 6879-6881 6898-6899 6932-6938 7209-7212 7216- 7219 7245-7248 7252-7255 7258-7263 7267-7268 7296- 7298 7355-7357 7447-7449 7481 7536-7541 7556-7559 7580-7605 7608-7609 7611-7612 7615-7617 7620-7621 7630-7636 7660-7665 7671-7689 7693-7694 7701-7703 7729 7737-7743 7745-7751 7757-7759 7771 7778-7786 7789-7797 7802-7804 7815-7818 7822 7890 7898-7900 7904-7912 7921-7925 7957 7972-7975 7984-7985 7988 7990-7992 8010-8012 8049-8056 8059-8063 8098-8104 8113-8114 8132-8144 8157-8159 8178-8181 8184-8185 8187-8200 8211-8213 8247-8248 8253-8257 8271-8273 8297-8300 8342 8349-8350 8365-8366 8368-8370 8409- 8414 8416-8425 8430-8452 8461-8464 8487-8488 8502- 8503 8506 8509 8512-8513 8537-8542 8607-8609 8612- 8616 8688-8690 8698-8700 8741-8750 8754-8757 8760- 8766 8917-8918 8986-8991 8998-9008 9018-9020 9031- 9036 9043-9045 9063-9067 9072-9074 9196-9200 9306- 9311 9321-9323 9337-9338 9380-9381 9406-9407 9445 9456-9458 9475-9476 9487-9488 9510-9518 9522-9534 9561-9562 9584 9617-9626 9659 9664-9665 9726-9727 9729-9731 9739-9744 9763-9767 9782-9783 9792-9793 9808-9812 9826 9828-9832 9851-9852 9854-9855 9857- 9861 9874-9895 9898-9908 9916-9920 9923-9924 9927- 9935 9956-9957 9965-9992 9997-10009 10017-10019 10025-10026 10161-10163 10167-10172 10268-10274 10277 10306 10311 10320-10323 10326-10328 10449- 10457 10484-10487 10498-10503 10508-10512 10520- 10522 10531-10532 10543-10549 10551-10554 10588- 10594 10603-10606 10615-10623 10627-10630 10638- 10644 10873-10875 10891-10893 10895-10900 10904- 10906 10913-10914 10938 10953 10972 11071-11075 11081 11086-11115 11123-11124 11135 11208-11209 11226-11227 11295-11296 11302-11303 11306-11311 11314-11315 11317 11332-11333 11339-11350 11359- 11369 11372-11396 11406-11407 11423-11426 11431- 11432 11467-11474 11476-11478 11544-11546 11561- 11562 11582-11583 11609 11640-11650 11660-11661 11669-11671 11674-11678 11696 11711-11712 11731- 11734 11739-11740 11780-11782 11803-11804 11811- 11832 11835-11836 11840 11842 11873-11875 12023- 12026 12040-12041 12050-12056 12121-12126 12133- 12137 12140 12150-12169 12186-12196 12202-12205 12258-12262 12280-12282 12336 12361-12362 12374- 12377 12398-12401 12421 12446-12450 12455-12459 12470-12471 12475-12476 12519-12540 12545-12559 12590-12592 12601-12614 12619-12622 12637 12642- 12644 12646 12653-12658 12666-12667 12701-12705 12723 12729 12755-12759 12785-12787 12796-12798 12803-12806 12824-12827 12829-12830 12835-12843 12872-12881 12978-12981 12997-12999 13077-13079 13512 13556-13559 13565-13568 13571-13573 13592- 13595 13598-13600 13603-13605 13609-13612 13638- 13641 13645-13651 13754-13755 13796-13797 13898

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			13918-13919 13925-13930 13954-13956 13994-13997 14004 14044-14045 14054-14056 14105-14106 14137- 14138 14173-14174 14209-14215 14228-14235 14264- 14265 14283-14288 14304-14305 14346 14355-14369 14546-14549 14557 14604 14607-14609 14650-14651 14666-14668 14681-14682 14684-14685 14714-14717 14784 14822-14838 14871-14874 15019-15024 15182- 15183 15193-15200 15243-15248 15250-15251 15257 15290-15291 15305 15321-15324 15326-15328 15336- 15340 15356-15359 15406-15407 15412-15414 15454- 15456 15530-15531 15545-15547 15558-15560 15568- 15572 15576-15577 15588-15589 15600-15601 15623- 15626 15686-15687 15699-15700 15855-15857 15861- 15862 15867-15868 15880 15888-15889 15988-15990 16044-16046 16053-16058 16060-16061 16075-16079 16082 16096-16097 16110-16112 16141-16143 16163- 16164 16168-16171 16206-16208 16219-16220 16226- 16227 16233-16235 16284-16295 16339-16341 16350- 16353 16380 16434-16439 16443-16445 16451-16452 16456-16469 16473-16478 16498-16500 16508-16511 16536-16538 16545 16576-16577 16600 16609-16611 16623 16636-16637 16642-16648 16652-16655 16675- 16682 16686-16693 16704-16705 16752-16753 16828- 16831 16833-16842 16851-16853 16860-16870 16878- 16881 16894-16896 16911-16915 16934-16937 16974 17024-17028 17046-17057 17082-17084 17105-17106 17114 17117-17118 17160-17167 17264-17267 17286- 17291 17330-17332 17335-17339 17454-17456 17791- 17799 17857-17861 17924-17926 17930-17931 17958- 17962 17969-17994 18015-18017 18029-18030 18055- 18060 18097-18134 18136-18138 18371-18372 18400- 18402 18407-18410 18412-18418 18421-18422 18490- 18501 18516-18518 18527 18533-18534 18536-18537 18583-18586 18617 18624-18628 18633-18637 18644- 18650 18661-18662 18668-18677 18680-18681 18689- 18693 18717-18726 18730-18732 18745-18769 18771- 18776 18778-18780 18787-18789 18796-18813 18822- 18828 18839-18853 18856-18888 18893-18896 18899- 18905 18908-18910 18925-18939 18946 18964-18969 18975-18977 19001-19009 19018 19029-19035 19045- 19053 19055 19062-19065 19068-19073 19081-19083 19090 19106-19118 19138-19140 19142-19148 19153 19207-19210 19213-19220 19228-19229 19251-19252 19257 19266-19267 19274 19283-19294 19306-19312 19316-19317 19345-19360 19362-19364 19370 19372- 19374 19380-19402 19407-19411 19413-19417 19422- 19434 19438-19444 19454-19455 19461-19463 19502 19512-19521 19530-19531 19560-19573 19598-19601 19604-19607 19617-19619 19627 19656-19657 19659- 19661 19667-19668 19670-19673 19679-19687 19693 19698-19699 19706-19708 19727-19748 19759-19763 19800-19808 19813-19822 19915-19918 19921-19929 19933-19946 19948-19949 19953-19963 19965-19980 20015-20017 20026-20027 20029-20043 20048-20063 20072-20079 20087-20094 20099-20102 20106-20112

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			20120 20122-20127 20130 20137-20148 20151-20154 20157-20166 20172-20179 20182-20194 20200-20214 20231-20234 20241 20244-20249 20257-20262 20265- 20270 20274-20278 20281-20282 20286-20289 20299 20328-20330 20345-20354 20360 20366-20368 20393- 20405 20411 20414 20418-20451 20456-20468 20472- 20474 20476-20503 20510-20520 20524-20535 20537- 20541 20548-20553 20559-20568 20575-20578 20599- 20606 20614-20619 20625-20628 20631-20634 20644- 20652 20666-20674 20676-20680 20683-20687 20698- 20707 20718-20734 20752-20753 20758-20767 20789- 20797 20816-20821 20824-20849 20853-20863 20866- 20870 20879-20884 20888-20889 20897-20900 20922- 20932 20938-20943 20948-20949 20952-20954 20957- 20976 20999-21008 21027-21031 21060-21066 21069- 21087 21097-21100 21122-21127 21145-21151 21153- 21169 21171-21174 21176-21180 21194-21198 21202- 21207 21225-21226 21233-21235 21241-21252 21256- 21266 21272-21274 21277-21280 21284-21294 21297- 21298 21301-21303 21334 21351-21355 21359-21360 21377-21402 21434-21439 21447-21450 21458-21461 21463-21465 21467-21469 21480-21482 21485-21500 21529-21530 21554-21556 21587-21655 21729-21733 21744-21747 21881-21885 21891-21894 21915-21921 21924 21955-21968 21973-21974 21978 21983-21987 21995-22015 22019-22025 22042-22044 22056-22076 22089 22092-22094 22115-22127 22135-22138 22141- 22143 22158-22164 22187-22192 22195-22198 22204- 22211 22218-22226 22230 22246-22249 22253-22264 22277-22302 22310-22328 22336-22346 22358-22359 22365-22373 22377-22380 22383-22388 22399-22410 22440-22448 22455-22465 22495 22531-22533 22571- 22581 22607-22609 22634-22651 22653-22654 22661- 22664 22690 22696-22697 22700-22701 22703-22707 22726-22727 22732-22735 22760-22764 22794-22796 22805-22816 22821-22827 22833-22837 22843-22849 22852-22853 22875-22876 22881-22891 22904-22906 22925-22938 22952-22957 22974-22977 22982-22986 22991-22994 23007-23021 23046-23050 23059-23060 23064-23065 23070-23071 23074-23076 23098-23101 23125-23136 23141 23201-23202 23206-23209 23212- 23215 23218-23221 23236-23239 23242-23244 23249 23251 23261-23262 23321-23327 23343-23344 23379- 23390 23399 23415-23418 23425-23427 23433 23438- 23450 23473-23474 23486-23487 23489-23490 23492- 23493 23495-23496 23506-23513 23515-23518 23543- 23544 23555-23565 23599 23673-23674 23682-23686 23690 23704 23723-23730 23760-23761 23806-23809 23827-23833 23856-23860 23878-23880 23890-23892 23906-23910 23941-23956 23999-24001 24014-24018 24021-24025 24035-24040 24056 24116 24126-24129 25085-25090 25289-25290 25316-25321 25323-25325 25336-25337 25340-25341 25355-25358 25370-25377 25416-25417 25436-25440 25598-25603 26019-26028 26196-26199 26205-26213 26237-26243 26252 26260



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			26265-26266 26270-26283 26285-26290 26327-26328 26337 26339-26344 26361-26365 26373-26374 26401- 26402 26409-26411 26421-26423 26437-26439 26469- 26470 26596-26601 26610-26612 26665-26666 26678- 26684 26691-26694 26732-26735 26755-26756 26788- 26789 26804-26805 26831 26835-26837 26842-26843 26858-26862 26870-26881 26888-26890 26896 26980- 26984 27040-27043 27052 27067-27070 27074-27077 27091 27100-27102 27122-27126 27142-27146 27150- 27151 27154-27155 27173-27174 27193-27200 27206 27209-27213 27218 27233-27238 27269-27270 27283- 27287 27299-27301 27304-27305 27354-27357 27379- 27380 27444 27463-27466 27493-27495 27497-27507 27510-27511 27520-27521 27544-27545 27572-27573 27600-27606 27636-27641 27649-27654 27662-27672 27674-27676 27718 27726-27739 27755-27756 27784- 27788 27814-27815 27819-27820 27825-27826 27861- 27864 27890-27892 27896-27927 27937 27970 27989- 27990 27992-27994 28012-28017 28050-28059 28095- 28100 28105-28121 28133-28137 28142-28145 28186 28219-28224 28286 28315-28316 28361-28362 28424 28426-28428 28430-28434 28533-28539 28573-28578 29117-29123 29157-29158 29265-29267 29272-29276 29278-29283 29328-29337 29339-29340 29343-29345 29364-29366 29432-29435 29508-29518 29594-29604 29746-29761 29872-29875 29938-29953 29960-29961 30141-30142 30150-30156 30184-30188 30195-30199 30236-30242 30361-30368
leukocyte	Clontech	LUC003	197-200 319-323 329-330 373-374 506 792-795 804-823 934-935 1136-1139 1681-1687 1705-1714 2066 2270- 2274 2284-2298 3006-3008 3352 3834-3835 3998-4002 4160-4162 4555-4556 4640-4643 5335-5336 5919-5921 6011-6021 6226-6234 6403-6404 6523-6526 6832-6850 7216-7219 7657-7659 7681-7687 7745-7746 7757-7759 7778-7783 7806-7808 8203 8453-8454 8457-8458 8497- 8499 8543-8550 8612-8616 8760-8761 9037 9531 9857- 9861 10277 10531-10532 10906 10965 11135 11431- 11432 11475-11478 11607-11608 11731-11734 11805- 11808 11835-11836 11947-11950 12565-12568 12651- 12652 12699 12723 12785-12787 12869 13592-13595 13638-13641 13957-13958 14261-14263 15025-15070 15182-15183 15329-15331 15462-15463 15576-15577 15581-15584 15699-15700 15880 15988-15990 16082 16623 16642 16652 16730-16733 17286-17291 17335- 17339 17454 17955 17958-17962 18015-18016 18029- 18030 18411 18492-18494 18625-18626 18673-18677 18691-18692 18717-18718 18771-18772 18789 18796 18899-18903 18964-18969 18975 19005-19009 19018 19049-19053 19062-19065 19153 19209-19212 19228- 19229 19306-19307 19345-19350 19362 19370 19380- 19384 19401-19402 19422-19431 19503 19693 19938 19943-19946 19969-19980 20029-20043 20087-20094 20106-20110 20122-20127 20182-20194 20265-20270 20336-20338 20349-20354 20366-20368 20432-20440 20472-20474 20485-20490 20510 20547 20554-20557

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			20559-20562 20616-20619 20631-20634 20676-20680 20801-20805 20855-20862 20938-20942 20948-20949 20957-20962 20977-20984 21067-21071 21123-21127 21145-21148 21225-21226 21241-21247 21277-21280 21351-21352 21377-21397 21467-21469 21647-21655 21892-21894 21915-21916 22003-22006 22077-22079 22101-22107 22160 22169-22175 22187-22192 22250 22253-22255 22303-22308 22343-22346 22366-22371 22405-22408 22534-22539 22661-22662 22690 22794- 22796 22843-22845 22881-22886 22991-22994 23070 23343-23344 23402-23408 23419 23439-23450 23488 23495-23496 23508-23511 23856-23860 23882 23906- 23910 24014-24018 26237-26239 26266 26284 26327 26361-26365 26469-26470 26796-26798 26896 27052 27074-27077 27193-27200 27218 27261-27265 27492 27544-27545 27551-27554 27562-27563 27648-27654 27989-27990 28142-28145 28263-28268 28424 28573- 28578 29278-29283 29343-29345 30150-30156
melanoma from cell line ATCC #CRL 1424	Clontech	MEL004	10-14 30 48-49 51-52 164 366 395 576-578 635 697-699 716-717 785-786 798-803 832-836 967 1044-1045 1071 1440-1447 1488-1489 1705-1714 1778-1779 1912-1913 2275-2298 2306 2549 2692-2694 2699-2700 2950-2956 2967-2971 3078-3079 3151-3154 3226-3228 3255-3259 3336-3337 3738-3739 3856-3857 3949-3953 4515-4516 4600-4601 4623-4639 4819-4823 5109-5115 5335-5336 5569-5571 5802 5805-5807 5932-5936 5980-5984 6166- 6168 6377 6491-6510 6814-6831 6857-6858 7536-7541 7630-7636 7681-7687 7771 7778-7786 7794 7972-7975 7995-7997 8145-8151 8301-8306 8332-8333 8380-8390 8409-8414 8461-8464 8543-8550 8601-8603 8762-8766 8998-9001 9040-9042 9068 9337-9338 9340-9342 9360- 9361 9445 9529-9530 9659 9735-9738 9826 9828 9862- 9868 9927-9928 9989-9992 10306 10449-10450 10488- 10489 10508-10512 10520-10522 10615-10623 10876 11158 11419-11422 11473-11474 11609 11731-11734 11766-11768 11780-11782 11805-11808 11910-11911 11921-11930 12127-12128 12140 12190-12191 12206- 12208 12547-12554 12560-12561 12581-12582 12585- 12588 12615-12618 12824-12827 12978-12981 13077- 13079 13589-13591 13629-13631 13638-13641 13954- 13956 14137-14138 14170-14172 14604 14607-14609 14628-14635 14649 14681-14682 14694-14701 15222- 15224 15290-15291 15329-15331 15358-15359 15412- 15414 15576-15577 15699-15700 15863-15866 15881- 15883 16075-16079 16121-16122 16135 16156 16623 16642 16652 16683-16685 16704-16705 16860-16870 17070-17073 17242 17297-17306 17330-17332 17454 18015-18016 18097-18134 18405-18406 18411 18533- 18534 18583-18584 18761 18777-18780 18789 18825- 18828 18857-18880 18923-18924 18947-18950 18964- 18969 18975 19045-19048 19055 19062-19065 19081- 19083 19096-19101 19106-19118 19148 19253 19297 19316-19317 19345-19350 19362 19370 19373-19374 19385-19389 19422-19431 19442-19444 19515-19521 19693 19709-19710 19727-19735 19768-19771 19804-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19808 19813-19815 19855-19856 19921-19925 19969- 19980 20029-20043 20087-20094 20099-20102 20106- 20110 20120 20130 20146-20148 20172-20179 20235- 20241 20265-20270 20289 20418-20431 20511-20513 20537-20541 20607-20612 20625-20628 20646-20648 20688 20698-20707 20733-20734 20752-20753 20788- 20791 20816-20818 20824-20826 20836-20843 20858- 20862 20888-20889 20929-20932 20943 20948-20949 20963-20972 20977-20984 21005-21008 21024-21025 21062-21066 21069-21071 21076-21087 21149-21151 21202-21207 21275-21280 21446 21554-21556 21587- 21655 21744-21747 21881-21885 21892-21894 21903- 21904 21922-21923 21951-21954 21978 22016-22018 22042-22044 22062-22073 22087-22088 22117-22119 22152-22156 22160 22169-22170 22178-22184 22187- 22192 22195-22198 22225-22226 22231-22235 22261- 22264 22271-22276 22300-22302 22318 22343-22346 22373 22434-22435 22495 22607-22609 22632-22633 22637-22651 22661-22662 22700-22701 22707 22760- 22762 22948-22950 22974-22976 23046-23050 23053- 23055 23063 23138-23141 23206-23209 23220-23222 23252-23256 23261-23262 23358-23360 23379-23385 23392-23395 23433 23448-23450 23486 23682-23686 23711-23719 23761 23798-23799 23827-23833 23893- 23902 25331-25333 25374-25375 25583-25593 26209- 26213 26316-26321 26327 26361-26365 26469-26470 26596-26601 26860-26862 26980-26984 27035 27193- 27200 27245-27246 27254-27260 27299-27301 27439- 27440 27586-27587 27698-27699 27814-27815 27825- 27826 27861-27864 27896-27927 27983-27985 28040- 28041 28099-28100 28142-28145 28204-28209 28732- 28742 29328-29337 29339-29340 29358 29427-29431 29746-29761 30141-30142
mammary gland	Invitrogen	MMG001	167 170-171 180-181 255-256 260 319-325 358-359 395 398-399 406-407 419-420 425-427 461-465 534-535 582- 584 604 619-620 706-707 754-757 776 785-786 826-827 832-837 847-848 852-855 900-904 912 969-971 981-985 1001-1004 1035-1037 1071 1078 1082-1085 1092-1094 1097-1098 1123-1127 1131-1133 1196-1198 1242 1273- 1279 1346-1347 1432-1435 1470 1478 1483 1486-1492 1498-1499 1578-1585 1703-1719 1721-1726 1728-1731 1866-1872 1902 1925-1927 1939-1940 1961-1967 1980- 1982 2015-2018 2030 2055-2058 2284-2299 2306-2307 2382-2388 2410-2413 2471-2474 2540-2541 2577-2584 2599-2603 2663-2665 2675-2678 2776-2778 2820-2821 2874-2876 2886-2887 2889-2891 2903-2904 2923-2924 2934-2935 2951-2955 3078-3079 3205-3207 3261-3263 3276-3277 3312 3322-3323 3326-3331 3374-3377 3452- 3453 3459-3460 3477-3478 3483-3484 3507-3510 3512- 3514 3526-3529 3531-3534 3550-3558 3611 3649-3653 3686-3691 3729-3730 3768-3769 3781-3784 3789-3794 3834-3839 3873-3875 3949-3953 4091-4095 4129-4130 4141-4143 4160-4162 4206-4208 4404-4405 4515-4516 4526-4527 4531-4533 4562-4573 4600-4601 4623-4639 4644-4650 4686-4689 4785-4789 4795-4815 4857-4861

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			4980-4981 5050 5073 5109-5115 5117 5147-5148 5291- 5294 5335-5341 5371 5480-5482 5530-5531 5572-5573 5581-5583 5594-5602 5695-5698 5709 5717-5718 5803- 5804 5829-5845 5899-5902 5919-5921 5960-5964 5973- 5975 5980-5984 6085-6089 6140-6143 6166-6168 6184- 6185 6235-6237 6389-6392 6403-6404 6450-6451 6488- 6489 6638-6639 6645 6650-6655 6879-6881 7209-7212 7216-7219 7238-7240 7296-7301 7374 7421-7423 7534- 7535 7604-7605 7615-7617 7620-7621 7660-7665 7678- 7696 7745-7751 7787-7788 7795-7804 7815-7818 7821 7896-7897 7902-7915 7921-7925 7930-7932 7972-7975 7978-7985 7988 7990-7992 7994-7997 8002 8006-8007 8010-8012 8020 8071-8078 8084-8085 8090-8093 8106- 8110 8113-8114 8129-8136 8152-8159 8187-8200 8204- 8213 8227-8232 8247-8248 8253-8262 8310 8313-8314 8323-8325 8351-8364 8370 8383-8389 8404-8406 8434- 8448 8461-8464 8502-8505 8509-8515 8554-8555 8576- 8582 8607-8609 8689-8690 8760-8761 8771-8776 8869 8917-8933 8936-8938 8998-9001 9007-9008 9013-9017 9028 9040-9045 9072-9074 9196-9200 9264-9265 9305- 9311 9316 9337-9338 9340-9342 9366-9368 9382 9427- 9428 9456-9458 9472-9476 9506-9516 9522-9525 9529- 9531 9563-9566 9585 9594-9602 9617-9626 9659 9664- 9665 9676 9726-9727 9733-9738 9759-9767 9792-9795 9815-9820 9826 9828 9833-9834 9841-9842 9857-9861 9864-9866 9874-9895 9899-9904 9909-9912 9916-9920 9927-9935 9965-9983 9989-9992 10011-10016 10032 10161-10172 10254-10261 10263-10264 10268-10272 10278 10306 10311 10326-10328 10451-10453 10480- 10482 10491-10493 10498-10503 10519-10530 10543- 10549 10603-10606 10612-10614 10624-10626 10638- 10639 10820-10821 10870-10872 10881-10883 10886- 10889 10899-10900 10913-10918 10931-10933 10936- 10938 10957-10958 10980-10985 11006-11008 11010 11022-11023 11032-11034 11081 11217-11219 11345- 11350 11372-11396 11406-11407 11423-11426 11431- 11432 11465-11466 11505-11506 11538-11540 11544- 11545 11582-11608 11644-11648 11660-11661 11711- 11712 11731-11734 11761-11763 11780-11782 11803- 11808 11835-11836 11840 11843-11859 11873-11875 11890-11891 11901-11905 11937-11950 12050-12057 12131-12132 12140 12150-12151 12175-12176 12190- 12196 12202-12208 12241-12244 12309-12311 12362 12378-12397 12430-12431 12470-12471 12480-12482 12637 12640 12646 12673-12675 12701-12706 12714- 12723 12755-12759 12829-12830 12872-12881 12943 12997-12999 13505-13511 13552-13555 13565-13566 13592-13595 13629-13631 13638-13641 13665 13752- 13753 13896-13897 13908-13910 13918-13919 13925- 13926 13935-13936 13999-14004 14044-14053 14058- 14059 14104 14118-14122 14175-14181 14192-14195 14199-14201 14205 14228-14235 14274-14280 14344- 14346 14360-14369 14452-14453 14546-14555 14604 14626 14628-14635 14640-14642 14650-14651 14666- 14668 14683 14714-14717 14784-14786 14789-14791

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			14981-14983 15019-15024 15070 15096 15126-15129 15182-15183 15187-15189 15218-15219 15222-15224 15232-15236 15243-15248 15257-15259 15268-15270 15290-15291 15294-15297 15326-15328 15341-15342 15412-15414 15460-15461 15476-15478 15491-15495 15568-15572 15587-15589 15661-15663 15679-15685 15688-15694 15855-15857 15863-15868 15880 15896- 15900 15908 15991-15996 16129-16132 16167 16174- 16176 16233-16235 16359-16361 16365-16366 16388- 16391 16395-16396 16438-16439 16470-16472 16479- 16481 16496-16497 16545 16558-16562 16602-16608 16619-16621 16623 16642-16648 16702-16703 16707- 16708 16710-16712 16716-16723 16761-16767 16828- 16831 16836-16842 16851-16858 16894-16896 16934- 16937 17026-17028 17046-17057 17104 17238-17243 17249-17250 17284-17285 17292-17306 17330-17332 17335-17339 17394-17395 17454-17456 17791-17799 17956-17962 18029-18037 18136-18138 18269-18270 18371-18372 18376-18377 18412-18418 18516-18518 18536-18537 18540 18579-18581 18585-18586 18624 18644-18658 18668-18670 18673-18677 18717-18718 18730-18732 18750-18758 18771-18772 18778-18780 18787-18793 18796 18806-18807 18839-18853 18856 18899-18903 18910 18925-18933 18947-18950 18955- 18959 18975 18996 19005-19009 19012-19017 19019- 19024 19055 19057-19061 19081-19083 19096-19101 19151 19209-19220 19251-19252 19266-19267 19274 19283-19296 19302-19303 19306-19312 19316-19317 19345-19360 19362-19370 19375-19384 19390-19402 19407-19411 19415-19417 19422-19434 19441-19444 19458-19460 19464-19466 19484-19487 19494-19496 19515-19521 19526-19529 19536 19567-19573 19586 19598-19601 19617-19619 19627 19659-19661 19663- 19668 19670-19673 19683-19687 19700-19705 19727- 19751 19759-19767 19772 19800-19803 19809 19813- 19818 19855-19856 19926-19929 19933-19946 19950 19962-19963 19965-19967 19972-19981 20044-20047 20066-20068 20099-20102 20120-20121 20128-20130 20133-20154 20157-20164 20167-20171 20189-20194 20200-20207 20231-20241 20244-20252 20257-20262 20274-20280 20286-20287 20289-20296 20299 20305- 20307 20321-20324 20328-20330 20339 20349-20354 20361 20363-20368 20393-20400 20406-20407 20411- 20413 20415-20417 20432-20468 20472-20474 20485- 20490 20501 20505-20509 20514-20535 20537-20541 20546 20548-20557 20559-20574 20607-20612 20620 20625-20628 20631-20634 20646-20671 20676-20681 20686-20687 20698-20707 20727-20732 20752 20758- 20766 20768-20791 20798-20800 20806-20812 20822- 20843 20863 20868-20871 20879-20881 20885-20900 20927-20928 20943 20948-20949 20952-20954 20957- 20962 20977-20984 20999-21008 21015 21021-21023 21026-21045 21060-21066 21072-21075 21122-21127 21133-21135 21137-21140 21155-21169 21171-21174 21176-21180 21197-21198 21208-21210 21213-21215

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			21223-21226 21236 21248-21252 21263-21266 21272- 21274 21284-21294 21297-21298 21301-21303 21334 21353-21354 21377-21397 21408-21409 21428-21433 21440-21445 21447-21453 21467-21469 21480-21482 21485-21491 21495-21500 21554-21556 21712-21717 21788-21799 21877-21880 21899-21902 21911-21912 21917-21921 21925-21928 21936-21938 21958-21966 21983-21987 21995-21999 22003-22034 22040-22041 22047 22062-22069 22074-22076 22080-22086 22090- 22094 22101-22107 22115-22116 22141-22143 22152- 22156 22160-22168 22193-22194 22204-22211 22218- 22226 22256-22289 22303-22308 22318 22323-22328 22333-22335 22343-22350 22357-22359 22362-22365 22377-22380 22405-22408 22434-22435 22440-22448 22455-22465 22495 22531-22539 22553-22559 22571- 22581 22607-22609 22622-22628 22644-22651 22661- 22664 22669-22674 22700-22701 22730-22731 22741- 22742 22760-22762 22805-22816 22821-22827 22838- 22842 22846-22849 22852-22853 22870-22874 22881- 22886 22907-22908 22925-22926 22940-22947 22952- 22953 22969-22971 22973 22999-23021 23046-23052 23063 23066-23067 23070 23072-23076 23080-23086 23098-23101 23201-23202 23212-23215 23222 23229- 23233 23237-23239 23247 23252-23256 23258-23263 23279-23281 23328 23341 23356-23370 23375-23377 23379-23381 23386-23390 23392-23395 23409-23411 23419 23433-23438 23473-23479 23508-23509 23514 23543-23544 23555-23565 23673-23686 23690 23709 23720-23721 23726-23736 23760-23761 23771-23797 23802-23805 23827-23833 23839-23842 23845-23848 23867-23875 23878-23880 23882 23890-23902 23990- 23992 23999-24001 24005-24011 24035-24040 24056 24120-24125 24402-24425 24772-24774 25017-25026 25085-25090 25279-25288 25293-25297 25300-25304 25306 25319-25321 25323-25325 25331-25333 25336- 25337 25340-25341 25366-25367 25373-25377 25383- 25401 25403-25407 25416-25417 25542-25550 26024- 26028 26140-26143 26175-26184 26195-26199 26205- 26206 26266 26285-26290 26305-26306 26324-26325 26327 26337 26339-26344 26350-26352 26359-26360 26370-26374 26395-26396 26421-26422 26455-26459 26469-26470 26479-26545 26684 26737 26742 26807- 26812 26828 26860-26862 26876-26881 26985-26987 27040-27043 27050-27051 27074-27077 27091 27100- 27102 27129-27132 27150-27151 27156-27157 27180- 27183 27193-27200 27218 27229-27232 27269-27270 27354-27375 27439-27443 27455 27458-27462 27510- 27511 27520-27521 27544-27547 27586-27587 27600- 27606 27633-27634 27636-27641 27649-27654 27662- 27672 27719-27720 27726-27739 27755-27756 27799- 27802 27816-27818 27848-27852 27861-27864 27890- 27892 27896-27927 27970 27981-27982 27995-27997 28099-28100 28105-28107 28142-28145 28186 28192- 28203 28212-28221 28233-28261 28286 28365-28370 28416-28417 28424 28426-28428 28549-28555 29278-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			29283 29288-29289 29328-29337 29354-29358 29364-29366 29409-29417 29427-29431 29508-29518 29594-29604 29611-29613 29718-29721 29746-29761 29960-29961 30061 30085-30087 30141-30142 30150-30156 30189-30199 30221-30232 30243-30250 30325-30327
induced neuron cells	Stratagene	NTD001	188-191 289-291 576-578 617-618 716-717 1030 1034 1097-1098 1646 2540-2541 2599-2603 2675-2678 2724-2726 2871-2873 2973 3326-3331 3374-3376 3649-3653 3908-3910 3930 3949-3953 4165-4170 4486-4487 4515-4516 4581-4582 4984-4985 5053-5054 5272-5275 5335-5336 5777-5778 5802 5919-5921 5980-5984 6403-6404 6787-6790 6795-6800 7170-7172 7258-7263 7325-7343 7363 7368-7369 7557-7559 7688-7689 7693-7694 7701-7703 7745-7746 7778-7783 7906-7912 7990-7992 8187-8200 8250 8497-8499 8689-8690 8758-8759 8998-9001 9029-9030 9040-9042 9047-9048 9087 9321-9323 9559-9560 9829-9832 9909-9912 9947-9952 9993-9996 10477-10478 10494 10531-10532 10592-10594 10615-10623 10842-10867 10980-10985 11045 11228-11229 11314-11315 11405 11431-11432 11541-11543 11546 11609 11700-11707 11739-11740 11803-11808 11886-11891 11941-11944 12131-12132 12241-12244 12258-12262 12898-12899 12902-12905 12997-12999 13592-13595 13609-13612 13652-13659 14304-14305 15182-15183 15190-15191 15290-15291 15588-15589 15969-15974 16028-16029 16180-16181 16545 16619-16621 16642 17292-17296 17401-17432 17435 17455-17456 18029-18030 18097-18134 18300-18307 18400-18402 18412-18418 18691-18692 18771-18772 18796-18801 18839-18841 18846-18853 18899-18903 18989-18990 19001-19004 19012 19074-19080 19106-19118 19207-19208 19256-19257 19266-19267 19306-19307 19316-19317 19343 19355-19360 19387-19389 19447-19448 19458-19460 19488-19493 19566 19598-19601 19617-19619 19659-19661 19736-19742 19804-19808 19813 19939 19972-19980 20029-20043 20099-20102 20106-20110 20114-20119 20122-20127 20182-20188 20208-20218 20485-20490 20521-20523 20607-20612 20681 20698-20707 20827-20835 20853-20854 20871 21105-21111 21248-21271 21275-21280 21284-21294 21463-21465 21495-21500 21587-21646 21929-21935 22020-22025 22045-22046 22070-22073 22141-22143 22160 22187-22192 22195-22198 22243-22245 22358-22359 22365-22371 22381-22388 22433 22653-22654 22671-22674 22690 22916-22922 22977 23201-23202 23251 23358-23360 23420-23421 23700-23701 23798-23799 23806-23809 23890-23892 24749-24754 24928-24938 24985-24988 25029-25040 25279-25288 25376-25379 26024-26028 26205-26206 26209-26213 26266 26280 26310-26314 26327 26361-26365 26678-26680 27091 27100-27102 27269-27270 27446-27449 27522-27539 27544-27545 27729-27739 27861-27864 27896-27927 27989-27990 28315-28316 28361-28364 29117-29123 29328-29337 29343-29345 29418-29419 29426-29431 29885-29891 30167-30177 30352 30361-30368

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
retinoid acid induced neuronal cells	Stratagene	NTR001	2599-2603 4450 4581-4582 5038-5039 5253-5266 5335-5336 7695-7696 7787-7788 8537-8538 8612-8616 9049-9062 9563-9566 12755-12759 12978-12981 13638-13641 15530-15531 15588-15589 16110-16112 16545 16652 16836-16842 17238-17241 17335-17339 17790 18673-18677 18796 18825-18828 18936-18939 18975 19152 19306-19307 19363-19364 19370 19387-19389 19759-19763 19962-19963 20328-20330 20437-20440 20554-20557 21208-21210 21277-21280 21467-21469 21587-21646 21881-21885 22020-22025 22187-22192 22265-22270 23261-23262 23771-23780 23843-23844 25306 25373 26205-26206 26237-26239 26327 26860-26862 27156-27157 28142-28145 28426-28428 29328-29331
neuronal cells	Stratagene	NTU001	240-250 373-374 425-427 576-578 847-848 1388-1401 1432-1435 1470 1499 1778-1779 2306 2599-2603 2944 3040-3076 3107-3108 3326-3331 3421-3422 3477-3478 3483-3484 3789-3794 3912-3915 4055-4058 4171-4172 4206-4208 4515-4516 4562-4568 4581-4582 4785-4789 5186-5189 5253-5266 5272-5275 5279-5283 5525-5526 5943-5945 6135-6136 6403-6404 7264-7266 7346-7352 7784-7786 7815-7818 8203 8227-8229 8465 8497-8499 8716-8718 8998-9004 9007-9008 9038-9039 9049-9068 9472-9474 9479-9481 9535-9537 9594-9602 9735-9738 9929-9935 9969-9980 10161-10163 10167-10196 10516-10518 10615-10623 10873-10875 10915-10918 11308-11310 11334-11335 11775-11776 11840 12150-12151 12258 12590-12592 12653-12654 12716-12719 12997-12999 13552-13555 13638-13641 13847-13849 14038-14041 14044-14045 14137-14138 14277-14280 14640-14642 14814-14815 15025-15069 15100-15109 15277-15278 15408-15411 15530-15531 15563-15564 15576-15577 15588-15589 15863-15870 16141-16143 16174-16176 16182-16189 16545 16642 16652 16836-16842 16851-16853 17284-17285 17435-17440 17451-17454 17958-17962 18029-18030 18043 18097-18134 18500-18501 18562-18576 18671-18672 18796-18801 18825-18828 18857-18880 18925-18933 18975 18993-18995 19049-19053 19153 19298-19300 19306-19307 19316-19317 19351-19354 19370 19375-19379 19395-19400 19415-19417 19432-19434 19511 19515-19521 19526-19529 19564-19566 19625 19659-19661 19683-19687 19813-19815 19855-19856 19938 19940-19942 19965-19967 19972-19980 20026-20027 20099-20102 20106-20110 20161-20164 20200-20207 20241 20289 20336-20338 20406-20407 20437-20440 20485-20490 20521-20523 20537-20541 20602-20612 20631-20634 20639-20640 20646-20648 20666-20671 20792-20797 20827-20843 20871 20897-20900 20924-20925 20927-20928 20938-20942 20957-20962 21032-21045 21208-21210 21241-21247 21256-21262 21272-21283 21295-21296 21554-21556 21587-21655 21899-21904 21936-21938 21951-21954 21958-21966 22007-22015 22040-22041 22047-22049 22070-22073 22152-22156 22165-22168 22171-22175 22218-22224 22243-22245 22253-22255 22292-22299 22312-22313 22343-22346 22372-22373



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			22411-22432 22434-22435 22495 22534-22539 22551-22552 22571-22581 22658-22660 22911 22923-22924 23029-23045 23047-23050 23098-23101 23356-23360 23392-23395 23415-23418 23508-23509 23555-23565 23761 23771-23780 23941-23959 24130-24144 24345-24357 24481-24490 25029-25040 25085-25090 25258-25278 25322 25382-25401 25583-25593 25986-26016 26209-26213 26327 26361-26365 26395 26421-26422 26843 26860-26862 26980-26984 27100-27102 27164-27170 27269-27270 27304-27305 27493-27495 27498-27500 27550 27586-27587 27662-27672 27825-27826 27896-27927 28324-28345 28365-28370 28426-28428 28464 29317-29320 29327-29331 30150-30156 30352 30361-30368
pituitary gland	Clontech	PIT004	307-308 395 845-846 1440-1447 1451 1453-1454 2272-2274 2362-2363 3105-3106 3322-3323 3433 4080-4082 4612-4614 4714-4719 4971-4974 5284 5335-5336 5572-5573 6140-6143 6405 6488-6489 7216-7219 7611-7612 7988 8343-8344 8917-8918 9007-9008 9029-9030 9444 9759-9762 10451-10453 10640-10644 10873-10875 11649-11650 11660-11661 11731-11734 11803-11804 11835-11836 12361 12637 13077-13079 13592-13595 14261-14263 14723-14724 15093-15095 15190-15191 15392-15396 16141-16143 16422-16429 16636-16637 16642 16894-16896 18691-18692 18836-18838 18899-18903 18975 19074-19080 19260-19262 19362 19415-19417 19458-19460 19921-19923 20161-20164 20452-20455 20548-20553 20575-20578 20629-20630 20666-20671 21072-21075 21149-21151 21256-21262 21881-21885 21955-21957 22160 22187-22192 22199 22358-22359 22375-22376 22383-22388 22644-22651 22768-22770 22805-22809 22852-22853 22991-22994 23080-23083 23242-23244 23704 23720-23721 23761 26196-26199 26327 26361-26365 26431 26755-26756 27067-27070 27254-27260 27755-27756 27825-27826 27861-27864 28311-28313 29332-29337 29360-29362 29370 30085-30087 30141-30142 30150-30156
placenta	Clontech	PLA003	4581-4582 8247-8248 9002-9004 9905-9908 10906 11468-11472 15091-15092 15623-15626 16060-16061 17026-17028 18502-18515 18625-18626 18719-18722 19370 19401-19402 19706-19708 20263-20264 21046-21056 21405 22171-22175 22265-22270 22495 22690 26024-26028 26280 26843 26885-26887 29328-29331
prostate	Clontech	PRT001	197-200 419-420 635 721-722 845-846 913 919-922 981-985 1047 1269-1272 1432-1435 1451 1474 1534 1536 1738 1742-1754 1800 1891-1892 1975-1976 2130-2131 2139-2141 2300-2302 2663-2665 2695-2698 2983-2986 2988-2989 2993 3020 3151-3154 3158 3512-3514 3612-3613 3674 3687-3691 3949-3953 4547-4548 4726-4727 4868-4869 5082 5149-5150 5285-5287 6092-6093 6403-6404 6932-6938 7008-7010 7536-7541 7618-7619 7695-7696 7784-7786 7789-7793 7806-7808 7898-7900 7924-7925 7988 8070 8074-8076 8204-8205 8249 8342 8449-8452 8554-8555 8758-8759 8762-8766 8917-8918 8978-8981 9036 9068 9072-9074 9339 9443 9456-9458 9519-

Tissue rigin	RNA Source	Library Name	SEQ ID NOS:
			9521 9531 9561-9562 9617-9626 9680-9681 9763-9767 9828 10309-10311 10470-10473 10588-10594 10628- 10630 10820-10821 10901-10902 10941-10943 10965 11496-11498 11546 11780-11782 11809 11835-11836 11840 11951-11969 12027-12039 12171-12173 12194- 12196 12258 12615-12618 12640 12997-12999 13576- 13579 13592-13597 13609-13612 13843-13844 14058- 14059 14092-14093 14130-14131 14166-14168 14389 14604 14684-14685 14821 15182-15183 15190-15191 15438 15454-15456 15479 15699-15700 15855-15857 15863-15866 15890-15895 15961-15963 15988-15990 16053-16058 16168-16171 16392-16394 16642 16773- 16780 16851-16853 16949-16953 17114 17330-17332 17454 17958-17962 18015-18016 18500-18501 18516- 18518 18533-18534 18625-18626 18655-18658 18671- 18672 18719-18726 18762-18766 18796 18802-18804 18857-18880 18899-18903 19059-19065 19081-19083 19090 19135-19137 19154-19155 19274 19372 19415- 19417 19442-19444 19683-19687 19693 19700-19705 19772 19814-19815 19921-19925 19943-19946 19972- 19980 20048-20052 20130 20161-20164 20172-20179 20182-20188 20265-20270 20289 20305-20307 20339 20357-20359 20393-20400 20537-20541 20558 20575- 20578 20625-20630 20644-20645 20698-20707 20753 20758-20767 20792-20797 20806-20812 20819-20821 20881 20948-20949 20957-20962 21016-21023 21069- 21071 21101-21104 21225-21226 21237-21240 21284- 21294 21427 21495-21500 21529-21530 21647-21655 21892-21894 21905-21910 21973-21974 21978 22026- 22029 22040-22041 22090-22094 22212-22217 22230 22284-22289 22318 22336-22342 22347-22348 22358- 22364 22570 22622-22624 22634-22636 22653-22654 22700-22701 22768-22770 22857-22858 22899-22900 22955-22961 22973 22991-22994 23063 23070-23071 23098-23101 23218-23219 23252-23256 23364-23370 23415-23418 23473-23474 23519-23520 23700-23701 23704 23761 23770 23802-23805 23827-23833 24005- 24011 24772-24774 25313 25340-25341 25374-25375 25416-25417 26339-26340 26657-26659 26755-26756 26804-26805 26850-26854 26873-26875 27100-27102 27218 27463-27466 27468-27475 27655-27656 27700- 27701 27816-27818 27825-27826 27861-27864 27989- 27990 28108-28121 28204-28209 28426-28428 29278- 29283 29432-29435 29960-29961 30085-30087 30150- 30156 30184-30194 30236-30242
rectum	Invitroge n	REC001	180-181 534-535 540-542 1681-1687 1705-1714 1721- 1722 1745-1746 2272-2274 2675-2678 2695-2698 2813- 2846 3326-3331 3555-3558 3687-3691 3717-3720 3834- 3835 3949-3953 4692-4695 4857-4861 5246 5337-5341 5572-5573 5802-5804 5919-5921 6209-6211 6400-6404 6406-6410 7209-7212 7426-7442 7609 7747-7751 7757- 7759 7778-7783 8074-8078 8323-8325 8329-8334 8453- 8454 8741-8750 8986-8991 9029-9030 9043-9045 9305 9375-9376 9391-9392 9456-9458 9531 9585 9828 9921- 9922 9986-9988 10263-10264 10277 10306 10480-10482

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			10491-10493 10498-10503 10523-10530 10907-10910 10919-10922 11006-11008 11372-11396 11399-11402 11660-11661 11835-11836 11886-11889 12140 12150- 12151 12362 12435 12455-12459 12472-12473 12571- 12572 12642-12644 12723 12755-12759 12788-12790 12824-12827 12872-12881 13576-13579 13601-13602 13629-13631 13638-13641 14546-14549 14604 14636- 14642 15096 15233-15236 15336-15340 15623-15626 15855-15857 16716-16723 17010-17014 17031-17035 17038-17041 17956-17962 18374-18375 18395-18397 18624 18651-18654 18717-18726 18757-18758 18767- 18769 18789 18796 18944-18945 19132 19224 19257 19283-19294 19306-19307 19380-19384 19390-19394 19401-19402 19407-19411 19422-19434 19454-19455 19488-19496 19625 19733-19735 19743-19751 19814- 19815 19972-19980 20122-20127 20130 20137-20145 20189-20197 20235-20240 20274-20278 20297-20298 20300-20307 20321-20324 20328-20330 20441-20451 20456-20471 20476-20481 20524-20535 20569-20574 20625-20628 20758-20766 20806-20812 20827-20835 20858-20862 20871 20882-20884 20952-20954 21005- 21008 21021-21023 21145-21148 21171-21174 21229- 21232 21256-21262 21297-21298 21351-21352 21428- 21433 21440-21445 21447-21450 21467-21469 21480- 21482 21492-21494 21877-21880 21903-21904 22003- 22015 22020-22029 22050-22055 22062-22069 22092- 22094 22117-22119 22200-22207 22261-22264 22277- 22283 22292-22299 22349-22350 22455-22465 22495 22571-22581 22622-22624 22663-22664 22760-22762 22781-22782 22838-22842 22974-22977 23074-23076 23084 23229-23233 23252-23256 23392-23395 23433 23543-23544 23599-23624 23690 23761 23806-23809 23878-23880 24021-24024 24056 24092-24097 24120- 24125 24665 25306 25347-25358 25966-25968 26347- 26348 26359-26360 26421-26422 26448-26451 26455- 26459 26855-26857 26879-26881 27091 27129-27132 27193-27200 27245-27246 27269-27270 27304-27305 27510-27511 27544-27545 27799-27802 27814-27815 27869-27886 27888-27892 27983 28199-28203 28232 28255-28261 28511-28513 29278-29283 29309-29314
salivary gland	Clontech	SAL001	260 307-308 331 551-552 832-836 969-971 981-985 1312-1313 1721-1722 1810-1811 2072 2303 2306-2307 2599-2603 2847 2850-2860 3151-3154 3657 3723-3728 3737 3840-3852 3949-3953 4515-4516 4531-4533 4555- 4556 4581-4582 4857-4861 4971-4974 5269-5271 5525- 5526 5652-5653 5658 5700 6337-6338 6411-6412 6442- 6449 6762-6764 7452-7460 7678-7687 7701-7703 7745- 7746 7778-7783 7805 7988 8145-8151 8187-8200 8337- 8342 8383-8389 8554-8555 8986-8991 9018-9020 9038- 9039 9427-9428 9531 9535-9537 9782-9783 9828 9899- 9901 9923-9924 9997-10009 10306 10531-10532 10607- 10611 10876 11009 11123-11124 11609 11644-11648 11669-11671 11731-11734 11835-11836 12040-12041 12175-12176 12202-12205 12229-12230 12362 12434 12468-12469 12474 12565-12568 12573-12574 12642-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			12644 12701-12705 12723 12794-12795 12803-12804 12872-12881 12984-12985 12997-12999 13077-13079 13545-13548 13592-13595 13638-13641 13937-13938 14132-14136 14546-14549 14552-14555 14604 14650- 14651 14714-14717 15003-15008 15294-15297 15542 15545-15546 15548-15550 15614-15616 15884-15885 16168-16171 16623 16636-16637 16653-16655 16716- 16723 16851-16853 17058-17066 17094-17100 17255- 17256 17330-17332 17489-17490 18010-18012 18412- 18418 18527 18624-18626 18673-18677 18682-18688 18691-18692 18717-18718 18723-18726 18789 18796 18829-18834 18934-18935 18964-18969 18975 18993- 18995 19096-19101 19134 19209-19210 19283-19294 19308-19309 19350-19354 19362-19364 19380-19384 19401-19402 19699 19706-19708 19749-19751 19759- 19763 19855-19856 19921-19923 20111-20112 20120 20146-20148 20244-20249 20288-20289 20316-20320 20325-20335 20414 20501 20710-20711 20752-20753 20758-20766 20788 20792-20797 20813-20815 20858- 20863 20902-20921 20943 20952-20954 21015 21248- 21252 21281-21294 21403-21404 21451-21453 21529- 21530 21532-21533 21647-21655 21955-21957 21978 22026-22029 22077-22079 22097 22160 22208-22211 22230 22314-22317 22323-22328 22343-22346 22358- 22359 22373 22440-22448 22495 22571-22581 22690 22737-22739 22838-22842 22923-22924 22980-22981 22991-22994 23059-23060 23066-23067 23070 23074- 23076 23212-23215 23235-23236 23251-23256 23524- 23525 23726-23730 23761 23878-23880 23911-23940 24056 25085-25090 25306 25323-25325 25340-25341 25370-25373 25383-25401 26024-26028 26341-26344 26373-26374 26423 26596-26601 26844-26845 27067- 27070 27281-27282 27304-27305 27740-27743 27814- 27815 27861-27864 27893-27895 28105-28107 28192- 28198 28212-28216 28233 28255-28261 28311-28313 28424 29278-29283 29332-29337 29940-29949 30150- 30156 30233-30235
Salivary gland	Clontech	SALs03	981-985 8698-8700 11538-11540 14546-14549 20316 27814-27815 27989-27990 28424
skin fibroblast	ATCC	SFB001	1307 3374-3376 6285-6288 6791-6794 10306 12258 17026-17028 18029-18030 19011 19939 19972-19980 20182-20188 22141-22143 22160 22495 23415-23418 28424 30150-30156
skin fibroblast	ATCC	SFB002	2926 5805-5807 6166-6168 10306 12258 17026-17028 17038-17041 17455-17456 18029-18030 19011 19548- 19553 19813 21060-21061 22141-22143 22160 22373 22495 22531-22533 26879 27636-27639 28424 30150- 30156
skin fibroblast	ATCC	SFB003	5803-5804 6166-6168 12258 17335-17339 18029-18030 18778-18780 19062-19065 19548-19553 20182-20188 22007-22015 23051-23052 23419 25340-25341 27269- 27270 27814-27815 28424 30150-30156
small intestine	Clontech	SIN001	83 87-94 195-200 307-308 332 373-374 557-559 674-675 783-784 852-855 901-904 1071 1240-1241 1470 1678- 1680 1755-1762 1764-1766 1769-1772 2030 2048 2089-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			2100 2337-2338 2468 2599-2603 2871-2873 3006-3008 3151-3154 3461-3463 3487-3503 3661-3663 3675 4137- 4139 4531-4533 4549 4552 4640-4643 4651 5279-5283 5744-5747 5980-5984 6095-6099 6103-6104 6155-6159 6186-6189 6235-6237 6484 6982-6984 7267-7268 7407- 7414 7576-7577 7681-7687 7778-7786 7798-7801 7906- 7912 7972-7975 8074-8076 8162 8211-8213 8247-8248 8370 8539-8542 8762-8766 8917-8918 9196-9200 9456- 9458 9475-9476 9478 9529-9530 9828 9905-9908 9925- 9926 9997-10009 10490 10508-10512 10592-10594 10624-10626 10930 10936-10937 10965 11021 11505- 11506 11538-11540 11612-11639 11772-11774 11886- 11889 11977-11978 12027-12041 12642-12644 12814- 12822 12872-12881 12978-12981 12997-12999 13087- 13089 13592-13595 13999-14003 14090-14091 14283- 14288 14546-14551 14604 14663-14665 15182-15183 15258-15259 15294-15297 15326-15331 15336-15340 15532-15535 15869-15870 15961-15963 16096-16097 16163-16164 16601-16608 16623 16702-16703 16724- 16725 16836-16842 16899 16918-16919 17268-17274 17366-17368 17455-17456 17489-17490 17525-17527 17958-17962 18020-18022 18421-18422 18527 18655- 18658 18719-18722 18757-18758 18761 18842-18845 19151 19283-19296 19306-19307 19350 19370 19387- 19389 19401-19402 19422-19431 19488-19496 19617- 19619 19627 19663-19666 19733-19735 19749-19751 19814-19815 19924-19925 19972-19980 20026-20027 20111-20112 20151-20154 20165-20166 20231-20234 20265-20270 20343-20344 20349-20354 20425-20426 20432-20436 20447-20451 20469-20471 20491-20494 20514-20535 20548-20553 20575-20578 20646-20648 20666-20671 20698-20707 20714-20717 20747-20751 20758-20766 20768-20787 20926 20938-20942 20952- 20954 21027-21031 21069-21071 21097-21100 21176- 21180 21377-21397 21647-21655 21744-21747 21925- 21928 21948-21950 21967-21968 21971-21974 22077- 22079 22117-22119 22152-22156 22200-22203 22218- 22224 22323-22328 22343-22346 22365 22399-22404 22700-22701 22763-22764 22838-22842 22870-22874 22881-22886 22969-22970 22998 23046 23074-23076 23236 23252-23256 23373-23378 23386-23390 23434- 23437 23543-23544 23806-23809 23890-23892 24056 25085-25090 25306 25338-25339 25383-25401 25705- 25715 26196-26199 26237-26239 26252 26361-26365 26879 26893-26895 27304-27305 27476-27477 27497 27600-27601 27729-27739 27853-27856 27861-27864 27940-27942 27989-27990 28199-28203 28468-28484 29309-29314 29426 30141-30142
skeletal muscle	Clontech	SKM001	170-171 255-256 912 981-985 1259-1262 1280-1282 1436-1437 1483 2683 2972 2975-2977 3661-3663 3740 4091-4095 4338-4339 4388-4390 4515-4516 4562-4568 4708-4711 5525-5526 5581-5583 5591-5592 6671-6672 6773-6774 7681-7687 7784-7786 7806-7808 7815-7818 7902-7903 7972-7975 7990-7992 8216-8218 8351-8360 8502-8503 8512-8513 8554-8555 9100-9144 9327-9328

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			9478 9510-9516 9803-9807 9826 9828 9871-9873 10498-10503 10726-10727 10936-10937 11021 11468-11472 11612-11639 11715-11716 11731-11734 12378-12397 12437-12438 12555-12559 12593-12596 12637 13911-13915 14044-14045 14192-14195 14199-14201 14546-14549 14604 14643 14714-14717 15096 15545-15546 15969-15974 16059 16461-16464 16851-16853 17372-17374 17791-17799 18010-18012 18421-18425 18427-18429 18533-18534 18536-18537 18723-18726 18796 18836-18838 18857-18880 19029-19035 19266-19267 19362-19364 19395-19400 19736-19742 19759-19763 19814-19815 19972-19980 20087-20094 20195-20197 20265-20270 20281-20282 20289 20328-20330 20432-20440 20510 20542-20545 20681 20698-20707 20727-20732 20792-20797 20824-20826 20977-20984 21015 21032-21045 21076-21087 21157-21169 21181-21193 21223-21224 21233-21235 21301-21303 21408-21409 21955-21957 21978 22212-22217 22801-22804 22810-22816 23026-23028 23379-23381 23508-23509 23760 24772-24774 25403-25407 25598-25603 26691-26694 26737 26882-26884 27193-27200 27304-27305 27386-27389 27986 28293-28295 28420 29409-29416 30141-30142 30233-30235
skeletal muscle	Clontech	SKM002	4590-4592 5557-5560 18029-18030 18964-18969 19548-19553 23046 23063 30150-30156
skeletal muscle	Clontech	SKMs03	11745-11748 18919-18921 19395-19400
skeletal muscle	Clontech	SKMs04	1051-1052 11538-11540 18919-18921 19011 22160 26843
spinal cord	Clontech	SPC001	42-44 180-181 260 326-327 329-330 373-374 395 419-420 549 560-561 694-695 745-748 785-786 847-848 901-904 912 1001-1003 1005 1097-1098 1134-1139 1210-1211 1273-1279 1451 1537-1540 1604-1607 1773-1776 1778-1783 1785 1790 1887-1889 1943 2063-2065 2067 2122-2124 2136-2137 2214-2219 2339-2352 2383-2388 2457 2470-2474 2570-2574 2695-2698 2706 2802 2808-2811 2983-2986 3205-3207 3365 3374-3376 3507 3531-3534 3615-3617 3789-3794 3879-3880 3939-3941 4122-4126 4160-4162 4204 4515-4516 4553-4554 4586-4589 4602-4605 4720-4725 4870-4871 5123 5137 5335-5336 5846 5919-5921 5943-5945 5977-5978 6105-6109 6176-6185 6239-6243 6339-6340 6585-6592 7001-7007 7269-7271 7630-7636 7747-7751 7763-7770 7784-7788 7798-7801 8017-8019 8021-8024 8079-8081 8084-8085 8187-8200 8214-8215 8227-8232 8253-8257 8422-8425 8492-8499 8512-8513 8534-8535 8539-8542 8751-8753 8998-9001 9038-9039 9063-9067 9316 9321-9323 9431-9433 9486 9522-9525 9659 9682-9687 9745-9754 9786-9790 9803-9807 9828 9841-9842 9851-9852 9857-9861 9896-9897 10038-10040 10273-10274 10531-10532 10588-10594 10603-10608 10624-10626 10640-10644 10873-10875 10913-10914 10980-10985 11035-11037 11071-11075 11245-11249 11345-11350 11431-11432 11467 11609 11731-11734 11892-11897 12011-12013 12131-12134 12150-12151 12186-12189 12194-12196 12206-

Tissue origin	RNA Source	Library Nam	SEQ ID NOS:
			12208 12237-12239 12259-12262 12337-12361 12430- 12431 12477-12479 12555-12559 12637 13077-13079 13592-13595 13796-13797 14032-14033 14048-14053 14228-14238 14264-14265 14289-14297 14445-14447 14604 14794-14795 15133-15140 15182-15183 15290- 15291 15360-15380 15543-15544 15561-15562 15867- 15868 15884-15885 16062-16065 16115-16117 16418- 16421 16496-16497 16579-16582 16724-16725 16783- 16786 16851-16853 17074-17077 17330-17332 17335- 17339 17441-17450 17454-17456 17940-17942 17963 18004 18029-18030 18044-18045 18055-18060 18219- 18223 18371-18372 18423-18425 18490-18491 18516- 18518 18527 18673-18677 18719-18722 18761 18796- 18801 18811-18813 18894-18896 18906-18907 18964- 18969 18976-18977 18989-18990 19057-19058 19066 19068-19070 19102-19105 19151 19209-19212 19256- 19257 19362 19370 19401-19402 19438-19440 19442- 19444 19548-19553 19566 19580-19582 19590-19592 19604-19607 19617-19619 19667-19668 19672-19673 19693 19709-19710 19727-19732 19736-19742 19764- 19767 19810-19812 19943-19947 20029-20043 20048- 20052 20074-20079 20087-20094 20111-20112 20122- 20127 20137-20145 20151-20154 20161-20164 20250- 20252 20274-20278 20281-20282 20366-20368 20401- 20405 20415-20420 20437-20440 20452-20455 20491- 20494 20504 20514-20520 20524-20535 20563-20567 20569-20574 20653-20665 20676-20680 20718-20725 20727-20734 20753 20806-20812 20827-20835 20882- 20884 20938-20942 20999-21004 21032-21045 21122 21157-21169 21253-21255 21272-21274 21343-21350 21427 21446 21463-21465 21485-21491 21529-21530 21587-21646 21729-21733 21973-21974 21978 22047 22074-22076 22090-22091 22157 22160 22187-22192 22208-22211 22218-22226 22246-22249 22261-22264 22284-22289 22347-22348 22381-22382 22411-22432 22434-22435 22571-22581 22637-22651 22661-22662 22700-22701 22740 22768-22770 22828-22829 22833- 22834 22854-22856 22870-22874 22952-22953 22977 23046 23064-23065 23070-23071 23080-23083 23212- 23215 23235 23251-23256 23379-23385 23412-23414 23487 23489-23490 23492-23493 23515-23518 23802- 23805 23867-23870 23882 23893-23902 23941-23956 24005-24011 25085-25090 25289-25290 25334-25335 25347-25354 25368-25369 25403-25407 25966-25968 26024-26028 26258-26259 26294-26302 26347-26348 26357 26409-26410 26448-26451 26604-26606 26843 26860-26862 27048-27049 27105 27147-27149 27225 27269-27270 27281-27287 27570-27571 27595-27596 27607-27615 27729-27739 27758-27759 27861-27864 27890-27892 28008-28011 28142-28145 28311-28313 28424 28882-28887 29343-29345 29409-29416 29940- 29953 29958-29959 29962-29963 30233-30235
adult spleen	Clontech	SPLc01	188-191 546-547 667-668 697-699 792-795 934-935 981- 985 1047 1259-1262 1411-1413 1705-1714 1777 2052- 2054 2072 2599-2603 2649-2650 3326-3331 3377 3661-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			3663 3729-3730 3856-3857 4273-4274 4581-4582 4971-4974 5279-5283 5581-5583 6403-6404 6450-6451 7917-7918 7921-7923 7978-7983 8349-8350 8368-8370 8512-8513 8612-8616 8768-8770 8936-8938 8978-8981 9306-9311 9364-9365 9529-9530 9757-9758 9874-9895 9929-9935 10516-10518 10531-10534 10870-10872 11339-11344 11406-11407 11479-11481 11974-11976 12014-12015 12140 12475-12476 12642-12644 12651-12652 13598-13602 13668-13672 13925-13926 14445-14447 14546-14549 14999-15001 15025-15069 15085 15126-15129 15867-15868 15886-15887 15969-15974 16053-16058 16233-16235 16636-16637 16652 16860-16870 17235-17236 17998-17999 18671-18672 18691-18692 18762-18766 18773-18776 18806-18807 18964-18969 19059-19065 19211-19212 19370 19401-19402 19422-19431 19693 19706-19708 19727-19732 19749-19751 19943-19946 19953-19957 20069-20071 20111-20112 20235-20240 20345-20348 20366-20368 20452-20455 20497-20498 20524-20535 20542-20545 20569-20574 20614-20615 20733-20734 20747-20751 20788 20816-20818 20890-20896 21005-21008 21032-21045 21145-21148 21197-21198 21398-21402 21492-21494 21718-21724 21729-21733 21925-21935 21955-21957 22158-22159 22227-22239 22309 22312-22313 22336-22342 22440-22448 22534-22539 22661-22662 22696-22697 22955-22957 23229-23233 23261-23262 23356-23357 23379-23381 23433 23543-23544 23761 23906-23910 25323-25325 25338-25339 26280 26742 26860-26862 27091 27209-27213 27218 27247-27251 27504-27507 27510-27511 27544-27545 27600-27601 28050-28059 28365-28370 30150-30156 30240-30242
stomach	Clontech	STO001	260 524-525 716-717 832-836 934-935 1044-1045 1252-1256 1543-1546 1791-1794 1799-1800 1879-1880 1885-1886 1912-1913 2036 2068 2353 2409 2913-2914 3526-3529 3676-3678 3720 4652-4654 4673 4751-4755 4795-4809 5527-5529 5827-5828 5919-5921 5986-5988 5990-5991 6110 6393-6394 7561-7562 7745-7746 7757-7759 7890 8074-8076 8084-8085 8132-8136 8216-8218 8689-8690 8741-8750 9043-9045 9072-9074 9532-9534 9561-9562 9585 9688 9708 9791 9828 9848-9850 10615-10623 10980-10985 11372-11396 11406-11407 11609 11731-11734 11809 11898-11899 12455-12459 12545-12546 13576-13579 13925-13926 13954-13956 14137-14138 14141-14142 14261-14263 14604 15381-15385 15558-15560 15576-15577 15988-15990 16652 16860-16870 17454 18393-18394 18516-18518 18680-18681 18975-18977 19225 19362 19372 19401-19402 19498-19499 19548-19553 19583-19585 19749-19751 19768-19771 19926-19929 19939 19948-19949 19972-19980 20120 20133-20136 20208-20214 20243 20265-20270 20432-20436 20480-20481 20558 20629-20630 20952-20954 21248-21252 21256-21262 21892-21894 21979-21982 22135-22138 22141-22143 22160 22171-22175 22312-22313 22336-22342 22358-22359 22571-22581 22607-22609 22634-22636 22854-22856 22870-22874 22998



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			23046 23070 23112-23116 23201-23202 23358-23360 23492-23493 23543-23544 23599 23798-23799 23841- 23842 23845-23848 23871-23875 23893-23902 24126- 24129 25340-25341 25966-25968 26602 27067-27070 27080-27090 27269-27270 27302-27303 27480-27481 27657 28204-28209 29328-29331 29358 29418-29419 29950-29953 30141-30142 30195-30199
thalamus	Clontech	THA002	124-125 398-399 464-465 901-904 1044-1045 1295-1297 1334-1336 1514 1547 1806-1807 1809-1812 1817-1818 1820-1823 1826-1831 1833-1835 1837-1839 1925-1927 2201 2339 2354-2357 2410-2413 2471-2474 2561-2562 2675-2678 2806 2983-2986 3182-3187 3322-3323 3618- 3621 3789-3794 3853-3854 3926-3927 4515-4522 4531- 4533 4562-4568 4845-4851 4950-4951 5557-5560 5899- 5902 5992 6040-6042 6166-6168 6176-6183 6282-6283 6406-6410 7000 7362 7580-7597 7615-7617 7681-7689 7978-7983 8020 8132-8136 8152-8156 8162 8206-8210 8230-8232 8253-8257 8701-8705 8716 8724-8732 8771- 8776 8822-8835 9049-9062 9305-9311 9382 9535-9537 9590-9592 9708 9719-9722 9792-9793 9828 9981-9983 9986-9988 10167-10172 10326-10328 10488-10489 10780-10782 11405-11407 11460-11464 11766-11768 11835-11836 11840 11900 11937-11938 12202-12205 12637 12671-12672 12701-12705 12723 12829-12830 12978-12981 13500-13502 13552-13555 13796-13809 14227 14264-14265 14314-14317 14505-14545 14604 14793-14795 15025-15069 15093-15095 15661-15663 16096-16097 16118-16120 16141-16143 16787-16788 16920 16943-16945 17038-17041 17156-17159 17242 17454-17456 17571-17574 18015-18016 18097-18134 18651-18654 18691-18692 18796 18842-18845 18919- 18921 18925-18933 19018 19096-19101 19134 19256 19260-19262 19295-19296 19306-19307 19355-19360 19446 19512-19513 19594-19603 19620-19622 19659- 19661 19674-19678 19727-19732 19800-19803 19814- 19822 19919-19920 19943-19946 19950-19957 20106- 20110 20133-20136 20146-20148 20161-20164 20167- 20171 20180-20181 20215-20218 20235-20240 20317- 20320 20406-20407 20432-20436 20456-20468 20514- 20520 20524-20535 20676-20680 20827-20843 20853- 20854 21101-21104 21122 21153-21154 21211-21212 21229-21232 21284-21294 21353-21354 21447-21450 21463-21465 21477-21479 21492-21494 21554-21556 21718-21724 21881-21885 21924 22003-22006 22040- 22041 22047 22080-22083 22090-22091 22120-22127 22161-22164 22225-22226 22243-22245 22256-22260 22290-22299 22365 22381-22382 22393 22531-22533 22570 22625-22628 22661-22662 22690 22870-22874 22952-22953 22969-22970 23007-23021 23071 23223- 23225 23229-23233 23342 23412-23414 23420-23421 23489-23490 23726-23730 23781-23792 23843-23844 23882 23999-24001 24005-24011 24021-24024 24120- 24129 24231-24240 24471-24472 25085-25090 25342- 25343 25374-25375 26205-26206 26359-26360 26375 26398 26460-26463 26678-26680 27012-27014 27397

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27482-27485 27662-27672 27750-27756 27781 27819-27820 27890-27892 28095-28096 28286 28361-28370 28468-28484 29363 29508-29518 30189-30194
thymus	Clontech	THM001	112 180-181 216 227-230 302 329-330 332 524-525 546-547 576-578 697-699 796-797 900 934-935 1065-1066 1210-1211 1259-1262 1346-1347 1431 1499 1548 1551 1667-1668 1675 1681-1687 1705-1714 1721-1722 1777 2072-2075 2083-2084 2122-2124 2202-2203 2383-2388 2570-2574 2636 2806 2913-2920 2993 3128 3151-3154 3377 3508-3510 3649-3655 3686 3789-3794 3949-3953 4067-4072 4137-4139 4160-4162 4469-4470 4489-4493 4640-4643 5057-5059 5092-5094 5192 5335-5336 5654 5808-5812 6289 6403-6404 6450-6451 6488-6489 7216-7219 7275-7276 7640-7642 7681-7687 7745-7746 7778-7783 7902-7903 8113-8114 8132-8136 8163-8173 8253-8257 8297-8306 8313-8314 8367 8465 8607-8609 8758-8759 8768-8770 8917-8918 8982-8983 9029-9036 9038-9039 9049-9062 9196-9200 9391-9392 9456-9458 9472-9474 9486 9517-9521 9529-9530 9594-9602 9617-9626 9739-9742 9794-9795 9826 9828-9832 9851-9852 9857-9861 9909-9912 10273-10274 10277 10498-10503 10508-10512 10520-10530 10533-10534 10537-10538 10906 11011-11012 11069-11070 11081 11160 11252-11273 11314-11315 11345-11350 11406-11407 11476-11478 11496-11498 11579-11581 11607-11608 11715-11716 11731-11734 11739-11740 11840 11901-11905 11947-11950 12121-12126 12202-12205 12283-12284 12477 12555-12561 12637 12723 12984-12985 13083-13086 13107-13117 13556-13562 13581-13583 13592-13595 13603-13608 13796-13797 13896-13897 13999-14003 14175-14181 14604 14640-14642 14694-14701 14818-14820 15182-15183 15277-15278 15321-15322 15344 15392-15396 15406-15407 15438 15568-15572 15576-15577 15588-15589 15988-15990 16053-16058 16121-16122 16237 16434-16437 16461-16464 16496-16497 16623 16642 16653-16655 16851-16870 16899 17074-17077 17105-17106 17114 17238-17241 18008-18017 18029-18030 18097-18134 18421-18422 18579-18581 18583-18584 18629-18632 18644-18650 18655-18658 18691-18692 18750-18756 18759-18761 18806-18807 18836-18838 18842-18845 18857-18880 18899-18903 18947-18950 19001-19004 19068-19070 19209-19210 19283-19294 19310-19312 19316-19317 19345-19350 19362 19370 19372 19380-19384 19415-19417 19441 19566 19627 19659-19661 19670-19671 19693 19706-19708 19727-19732 19736-19742 19749-19751 19813-19815 19921-19923 19943-19946 19962-19963 20029-20043 20087-20094 20111-20112 20128-20129 20146-20154 20161-20164 20182-20188 20208-20214 20244-20253 20265-20270 20289 20328-20330 20360 20362 20406-20407 20412-20413 20415-20417 20425-20426 20437-20440 20485-20490 20495-20498 20505-20509 20514-20520 20524-20535 20542-20545 20563-20567 20621-20624 20631-20634 20646-20648 20681 20698-20707 20753 20767 20853-20854 20881 20897-

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			20900 20973-20976 20985-20988 20991 20999-21004 21026 21069-21071 21097-21100 21105-21111 21123- 21127 21141-21142 21213-21215 21233-21235 21241- 21252 21297-21298 21353-21354 21377-21397 21405 21434-21439 21554-21556 21647-21655 21881-21885 21915-21916 21967-21968 22003-22015 22026-22029 22070-22073 22160 22165-22168 22195-22198 22208- 22211 22218-22224 22246-22255 22271-22276 22284- 22289 22292-22299 22323-22328 22360-22361 22373 22375-22376 22383-22388 22440-22448 22495 22571- 22581 22634-22636 22653-22654 22665-22667 22688- 22689 22700-22701 22737-22739 22760-22762 22794- 22796 22805-22809 22835-22837 22916-22922 22971 22973-22976 22978-22979 22991-22994 23051-23052 23063 23074-23079 23141 23206-23209 23235 23249 23251 23343-23344 23386-23390 23396-23398 23419 23448-23450 23492-23493 23543-23544 23700-23701 23781-23792 23802-23805 23839-23840 23878-23880 23882 24005-24011 24021-24024 25373 25383-25401 25416-25417 25598-25603 26024-26028 26032 26252 26280 26341-26344 26359-26360 26409-26410 26691- 26694 26799-26801 26860-26862 27091 27097 27398- 27399 27493-27495 27544-27545 27557-27559 27586- 27587 27600-27601 27636-27639 27814-27815 27825- 27826 27861-27864 27930-27939 28050-28059 28192- 28198 28424 28446-28448 28573-28578 29265-29267 29278-29283 29940-29953 30135-30140 30150-30156 30195-30199
thymus	Clontech	THMc02	24 108-112 170-171 197-200 215 362 373-374 376-394 398-399 515-517 532-533 548 576-578 635 708-711 785- 786 864-867 872-875 900 953-954 967 1001-1003 1044- 1045 1097-1098 1169-1179 1203-1204 1318 1334 1388- 1401 1414-1417 1431 1453-1454 1476-1477 1569-1570 1593-1594 1619 1667-1668 1678-1687 1692-1693 1705- 1714 1777 1792-1794 1860 1879-1880 1925-1927 1967 2030 2085-2101 2114-2116 2122-2129 2202-2203 2383- 2388 2396-2400 2404-2406 2409 2475-2476 2599-2603 2692-2694 2745 2828-2845 2874-2876 2889-2891 2937- 2938 2951-2955 2988-2991 3006-3008 3035-3039 3077 3080-3084 3086-3087 3089-3090 3093-3096 3098-3109 3112-3123 3125-3128 3130 3136-3138 3140-3146 3151- 3154 3182-3187 3213 3326-3331 3374-3376 3421-3422 3477-3478 3508-3510 3679-3680 3684 3729-3730 3766- 3775 3778-3779 3781-3784 3789-3794 3906 3998-4002 4140-4143 4334-4335 4358-4361 4386-4387 4408-4409 4489-4493 4536-4538 4569-4573 4581-4582 4728 4738- 4750 4795-4809 4967-4968 4975-4978 4984-4985 5121 5139-5140 5253-5266 5279-5283 5333 5335-5341 5480- 5482 5527-5529 5581-5583 5700 5717-5718 5805-5812 5919-5921 5943-5945 5973-5975 6005-6006 6011-6021 6084 6135-6136 6331-6334 6401-6402 6405 6450-6451 6516-6519 6529-6532 6536-6543 6546 6551-6567 6877- 6878 7245-7248 7264-7266 7272-7273 7302-7303 7358 7481 7607 7615-7617 7648-7653 7681-7687 7806-7808 7815-7818 7972-7975 7984-7985 8013-8016 8047-8048

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			8059-8063 8113-8116 8132-8136 8206-8210 8250 8258- 8262 8301-8306 8351-8360 8422-8448 8453-8460 8465 8490-8491 8502-8503 8519-8525 8539-8542 8588-8597 8688 8758-8761 8771-8779 8790-8799 8917-8918 8998- 9001 9013-9020 9029-9030 9049-9067 9075-9078 9306- 9311 9316 9353 9420-9423 9456-9458 9482-9485 9506- 9509 9531 9603-9604 9617-9626 9726-9727 9729-9731 9743-9744 9763-9769 9782-9783 9826 9848-9850 9857- 9861 9874-9895 9909-9924 9929-9935 9965-9980 9984- 9992 9997-10009 10015-10016 10161-10163 10167- 10196 10273-10274 10281-10304 10306 10326-10328 10454-10457 10470-10473 10498-10503 10506-10507 10531-10532 10588-10591 10628-10630 10638-10639 10931-10933 10941-10942 11024-11025 11081 11161- 11197-11212-11216 11220-11221 11308-11310 11314- 11315 11339-11344 11493-11494 11546 11658-11659 11680-11691 11745-11748 11840 11901-11905 12050- 12056 12117-12118 12175-12181 12192-12193 12202- 12205 12245-12253 12312-12328 12331-12332 12362 12374-12377 12434 12562-12563 12590-12592 12606- 12612 12623-12636 12638-12640 12723 12729 12785- 12787 12796-12798 12805-12806 12824-12827 12829- 12830 12869-12870 12872-12881 12973-12974 12997- 12999 13505-13511 13517-13523 13668-13672 13796- 13797 13854-13860 13865-13866 13954-13956 14004 14044-14045 14100 14127-14128 14137-14138 14187- 14191 14313 14380-14381 14552-14555 14557 14607- 14609 14661-14669 14673-14683 14787-14788 14822- 14838 14999-15001 15019-15024 15096 15182-15183 15257 15277-15278 15300-15301 15329-15340 15358- 15359 15392-15396 15439-15442 15454-15456 15480- 15484 15496-15525 15545-15546 15551-15562 15576- 15577 15600-15601 15653-15656 15661-15663 15726- 15741 15861-15868 15878 15881-15883 15890-15895 15988-15990 16053-16058 16075-16079 16158-16159 16163-16164 16237 16352-16353 16403-16407 16418- 16421 16470-16472 16614-16615 16623 16636-16637 16642 16653-16655 16771-16772 16812-16814 16836- 16842 16873-16874 16894-16896 16911-16912 16946- 16953 17043-17057 17074-17077 17094-17103 17105- 17106 17112-17116 17145-17146 17297-17306 17356- 17358 17455-17464 17579 17924-17926 17939 17951- 17952 18004 18015-18017 18029-18030 18062-18064 18097-18134 18157-18160 18376-18379 18400-18402 18412-18418 18421-18422 18562-18576 18629-18632 18644-18650 18668-18670 18673-18677 18691-18692 18717-18718 18750-18758 18761 18767-18769 18789- 18793 18825-18828 18842-18845 18882-18888 18899- 18903 18910 18919-18921 18955-18959 18964-18969 19001-19004 19059-19065 19096-19101 19134 19266- 19267 19283-19296 19306-19307 19331-19340 19350 19363-19364 19370 19380-19384 19387-19402 19415- 19417 19438-19440 19464-19466 19487 19515-19521 19526-19531 19563 19567-19573 19598-19601 19604- 19607 19625 19663-19668 19670-19671 19693 19699

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19706-19708 19733-19748 19752-19755 19759-19763 19804-19808 19814-19815 19823-19854 19915-19918 19921-19923 19926-19929 19938-19939 19948-19949 19953-19961 19965-19980 20029-20043 20074-20079 20106-20112 20122-20130 20137-20145 20167-20171 20208-20214 20231-20234 20244-20249 20274-20278 20289-20296 20345-20354 20357-20359 20401-20405 20441-20446 20456-20468 20472-20474 20476-20479 20485-20496 20502-20503 20505-20510 20514-20553 20558-20574 20599-20606 20616-20636 20639-20641 20646-20652 20676-20680 20698-20707 20718-20725 20727-20734 20753 20789-20791 20819-20821 20824- 20843 20853-20854 20868-20870 20879-20880 20890- 20900 20924-20925 20938-20942 20952-20954 20957- 20962 20977-20988 21005-21008 21016-21020 21026- 21045 21060-21066 21072-21087 21097-21100 21105- 21111 21123-21127 21133-21135 21176-21180 21194- 21198 21208-21215 21233-21235 21241-21247 21277- 21280 21295-21296 21301-21303 21359-21360 21377- 21397 21410-21414 21417 21428-21433 21440-21445 21447-21450 21492-21500 21516-21530 21554-21556 21647-21655 21729-21733 21881-21885 21891 21915- 21916 21924-21928 21948-21950 21962-21968 21975- 21977 21989-21993 22007-22015 22020-22029 22074- 22079 22090-22094 22101-22107 22128-22138 22152- 22156 22161-22164 22171-22177 22204-22207 22212- 22224 22253-22276 22284-22299 22310-22311 22319- 22322 22336-22346 22349-22350 22358-22361 22365- 22371 22377-22380 22383-22388 22440-22448 22495 22561-22565 22571-22581 22607-22609 22644-22651 22653-22654 22663-22664 22678-22679 22690 22708- 22709 22763-22764 22801-22816 22823-22827 22835- 22837 22854-22858 22911 22925-22926 22941-22947 22971 23007-23021 23046 23051-23052 23063 23066- 23067 23074-23076 23085-23086 23098-23101 23109- 23111 23125-23136 23138-23140 23206-23209 23212- 23215 23218-23219 23252-23256 23261-23262 23343- 23344 23346 23356-23357 23379-23385 23392-23398 23415-23418 23439-23450 23470-23472 23486 23492- 23496 23521-23523 23555-23565 23675-23681 23704 23718-23719 23731-23742 23760-23767 23802-23805 23812-23813 23834-23835 23839-23840 23845-23848 23865 23867-23870 23903-23904 23990-23992 24014- 24018 24021-24024 24035-24040 24481-24490 25289- 25290 25323-25325 25347-25354 25383-25401 25461- 25470 26029-26031 26116-26120 26270-26279 26294- 26302 26337 26341-26344 26373-26374 26383-26385 26389-26393 26415 26455-26459 26467-26470 26610- 26612 26657-26659 26732 26742 26757-26771 26796- 26798 26855-26857 26879 26882-26884 27100-27102 27127-27132 27173-27174 27218 27247-27251 27269- 27270 27497-27500 27520-27521 27562-27563 27586- 27587 27600-27601 27621 27649-27654 27674-27676 27784-27788 27807-27808 27812-27813 27865-27868 27938-27939 27995-27998 28001-28011 28018-28039

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			28042-28043 28045-28086 28099-28100 28142-28145 28192-28198 28263-28268 28286 28315-28316 28360 28363-28364 28424 28468-28484 29250-29252 29278- 29283 29304-29308 29328-29337 29343-29345 29354- 29357 29432-29435 29529-29534 29655-29659 30150- 30156 30189-30199 30361-30368
thyroid gland	Clontech	THR001	197-200 221 255-256 259-260 309 324-325 329-330 333- 335 395 464-465 524-525 546-547 635 656 684 690-691 847-848 852-859 872-875 891 900-904 913 919-922 929- 931 957-958 969-971 981-985 1034-1037 1047 1092- 1094 1109-1110 1123-1127 1235-1237 1242 1273-1279 1307 1337 1409-1410 1431 1453-1454 1467-1469 1488- 1489 1553-1555 1557-1559 1667-1668 1675 1705-1714 1828 1840 1850-1852 1856-1860 1862-1863 1865-1873 1879-1880 1885-1889 1912-1913 1925-1927 1945-1946 1964-1966 1969-1970 1990 2058 2062 2130-2131 2222- 2226 2275-2276 2306 2354-2355 2360-2367 2383-2388 2393-2395 2471-2474 2480-2511 2513-2514 2540-2541 2597-2603 2663-2665 2679 2779 2806 2826-2827 2871- 2873 2951-2955 2983-2986 2988-2989 3004 3006-3008 3107-3108 3131 3144-3146 3151-3154 3306-3308 3310- 3311 3316-3321 3366 3377 3433 3441-3442 3448-3450 3466 3512-3514 3526-3529 3555-3558 3565-3588 3679- 3682 3693 3763-3765 3789-3794 3834-3835 3944-3955 4067-4072 4124-4126 4160-4162 4489-4493 4512-4516 4555-4556 4562-4573 4607 4612-4614 4655 4666 4701- 4704 4712-4713 4720-4725 4785-4789 4795-4809 4868- 4871 4971-4974 5065 5073 5109-5115 5118 5192 5276- 5278 5285-5287 5335-5336 5519-5521 5802 5805-5807 5823 5846 5899-5906 5919-5921 5994-6000 6106-6109 6155-6159 6284-6288 6290-6296 6300 6341-6343 6386 6403-6404 6490 6533-6535 6542-6543 6551-6567 6859- 6876 6982-6984 7203 7209-7212 7216-7219 7350-7352 7450-7451 7482-7517 7536-7541 7554-7555 7608 7611- 7612 7615-7617 7630-7636 7671-7673 7678-7687 7701- 7703 7734-7736 7757-7759 7763-7770 7805-7808 7815- 7818 7822 7972-7975 7978-7983 7988 7990-7992 7994 8002 8049-8056 8059-8063 8070 8079 8087-8089 8113- 8114 8137-8159 8161 8174-8177 8206-8213 8221-8229 8234 8249 8251-8265 8297-8300 8313-8314 8349-8362 8368-8369 8383-8389 8409-8414 8434-8452 8465-8476 8497-8499 8506-8508 8512-8513 8534-8535 8537-8550 8607-8609 8751-8753 8762-8767 8917-8933 8997 9037 9040-9045 9072-9074 9264-9265 9331-9333 9360-9361 9391-9392 9395-9396 9408-9414 9429-9430 9444-9448 9460 9472-9477 9486-9488 9522-9534 9561-9566 9617- 9626 9682-9683 9709-9713 9726-9727 9729-9731 9735- 9738 9757-9762 9770-9771 9782-9783 9794-9795 9828 9835-9840 9848-9852 9899-9904 9923-9924 9929-9935 9954-9955 9965-9968 9981-9983 9989-9992 9997-10009 10015-10016 10025-10026 10033-10037 10164-10166 10275-10276 10278 10306 10311 10326-10328 10451- 10453 10470-10473 10490-10493 10498-10503 10520- 10522 10533-10534 10537-10538 10543-10549 10592- 10594 10609-10611 10615-10623 10627 10881-10883

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			10895-10898 10903 10931-10933 10945 10957-10958 10971 10980-10985 11035-11037 11042-11044 11071- 11075 11081 11135 11147-11156 11160 11217-11219 11274-11275 11295-11296 11345-11350 11419-11422 11468-11472 11476-11478 11546 11607-11608 11660- 11661 11731-11734 11766-11768 11780-11782 11811- 11832 11835-11836 11842 11901-11905 11921-11930 12011-12015 12017-12022 12175-12176 12186-12193 12206-12208 12225 12241-12244 12259-12262 12366- 12397 12470-12471 12486-12518 12545-12546 12555- 12559 12615-12618 12637 12723 12729 12760-12762 12785-12787 12796-12798 12803-12804 12829-12830 12968-12969 12975-12976 12978-12981 12984-12992 12997-12999 13087-13089 13107-13117 13425-13495 13531-13535 13560-13562 13592-13595 13603-13605 13931-13933 13954-13956 14023-14026 14058-14059 14130-14131 14170-14172 14206 14228-14238 14261- 14263 14298-14305 14382-14385 14505-14545 14604 14626 14644-14648 14650-14651 14666-14668 14681- 14685 14784 14789-14791 15182-15183 15257-15259 15290-15293 15306-15320 15332-15335 15345-15346 15358-15359 15386-15388 15400-15403 15454-15456 15538-15541 15545-15546 15576-15577 15588-15589 15661-15663 15699-15700 15789-15814 15869-15870 15880 15902-15903 15988-15990 16044-16046 16075- 16079 16096-16097 16121-16122 16130-16132 16168- 16171 16200-16201 16219-16220 16269-16270 16279- 16280 16451-16452 16461-16464 16470-16472 16484- 16486 16496-16497 16535 16557 16570-16573 16579- 16582 16623 16632-16634 16636-16637 16652 16686- 16693 16727-16729 16851-16853 16875-16877 16894- 16896 16911-16912 16921-16923 16943-16945 16954- 16961 17038-17041 17046-17057 17094-17100 17105- 17111 17131-17132 17237-17242 17279 17284-17285 17330-17332 17335-17339 17372-17374 17441-17450 17454-17456 17493-17496 17610-17636 17924-17926 17958-17962 17998-17999 18001-18003 18015-18016 18029-18030 18376-18377 18421-18425 18492-18494 18500-18501 18533-18534 18536-18537 18625-18626 18655-18660 18671-18672 18691-18692 18717-18718 18723-18726 18730-18732 18738-18744 18767-18769 18778-18780 18787-18789 18796-18804 18806-18807 18825-18828 18835-18838 18842-18845 18857-18880 18894-18903 18910 18919-18921 18925-18935 18941 18946-18950 18960-18973 18976-18977 18996 19001- 19009 19029-19035 19045-19048 19055 19057-19058 19062-19066 19074-19083 19096-19101 19106-19118 19138-19140 19142-19148 19154-19155 19159 19254- 19255 19257 19266-19267 19274 19283-19294 19306- 19312 19316-19317 19345-19360 19362 19370 19380- 19402 19405-19406 19415-19417 19422-19434 19442- 19444 19458-19461 19484-19486 19494-19496 19515- 19521 19548-19553 19560-19562 19564-19566 19574- 19578 19593 19604-19608 19617-19619 19627-19655 19667-19668 19683-19687 19689-19693 19727-19735

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			19743-19751 19756 19759-19763 19768-19772 19804- 19808 19814-19822 19855-19856 19921-19929 19933- 19937 19939-19946 19948-19949 19953-19957 19962- 19963 19965-19967 19972-19981 20015-20017 20029- 20043 20048-20065 20074-20079 20087-20094 20099- 20102 20106-20113 20120 20122-20127 20130-20132 20137-20148 20167-20179 20189-20194 20208-20214 20235-20240 20250-20253 20265-20270 20274-20278 20289-20296 20299 20305-20307 20316-20320 20328- 20330 20345-20354 20391-20400 20415-20417 20425- 20431 20437-20451 20485-20490 20497-20498 20501 20510-20520 20524-20535 20537-20545 20554-20567 20575-20578 20614-20619 20642-20643 20676-20681 20686-20688 20698-20711 20726-20732 20752-20753 20758-20766 20789-20797 20806-20812 20819-20821 20824-20849 20853-20854 20858-20863 20865 20881 20890-20900 20922-20923 20929-20935 20943 20952- 20956 20963-20972 20977-20988 20991 20999-21004 21027-21045 21060-21066 21069-21087 21097-21114 21122 21145-21151 21202-21207 21223-21226 21233- 21235 21248-21252 21256-21271 21277-21294 21301- 21303 21326-21334 21340-21342 21351-21352 21377- 21397 21408-21409 21434-21439 21447-21450 21458- 21461 21477-21482 21495-21500 21516-21530 21587- 21655 21913-21921 21929-21935 21967-21968 21973- 21974 21978 21989-21993 21995-22018 22020-22029 22042-22044 22050-22059 22074-22076 22092-22094 22097 22115-22116 22141-22143 22152-22156 22160 22187-22192 22195-22198 22204-22226 22246-22255 22271-22289 22292-22299 22314-22318 22323-22328 22333-22335 22343-22348 22358-22359 22365-22371 22383-22388 22399-22408 22434-22435 22440-22448 22495 22534-22539 22553-22558 22560 22571-22581 22599-22602 22607-22609 22622-22628 22634-22643 22653-22654 22661-22662 22700-22701 22707 22741- 22742 22760-22762 22768-22770 22805-22816 22823- 22829 22833-22834 22846-22849 22854-22858 22870- 22874 22927-22938 22948-22950 22955-22957 22969- 22971 22991-22994 23047-23050 23059-23060 23066- 23067 23070-23071 23074-23076 23085-23086 23098- 23101 23117-23119 23123-23124 23218-23219 23242- 23244 23249 23251 23261-23262 23358-23360 23382- 23385 23392-23395 23439-23447 23470-23472 23489- 23493 23510-23511 23514-23518 23524-23525 23532- 23539 23543-23544 23682-23686 23704 23718-23719 23761 23771-23780 23793-23797 23806-23809 23827- 23833 23843-23844 23856-23860 23871-23877 23890- 23892 23906-23910 23941-23956 23999-24001 24005- 24011 24014-24018 24026-24028 24056 24126-24129 24772-24774 25306 25316-25318 25323-25325 25334- 25335 25340-25341 25370-25375 25534-25536 25966- 25968 26024-26028 26195 26209-26213 26235-26236 26248-26252 26294-26302 26307-26309 26316-26321 26327 26337 26341-26344 26349 26359-26365 26373- 26374 26383-26385 26401-26402 26405 26411 26424



Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			26440-26445 26453 26596-26602 26615-26616 26732 26737 26796-26798 26843-26845 26850-26852 26858- 26862 26876-26879 26891-26892 26980-26984 26988 27048-27049 27052 27074-27077 27091 27105 27122- 27126 27147-27149 27209-27213 27229-27232 27269- 27270 27275-27276 27414-27431 27439-27443 27468 27486-27492 27496 27498-27500 27510-27511 27589- 27592 27602-27606 27622 27636-27639 27649-27654 27658 27662-27672 27698-27699 27726-27739 27744- 27748 27767-27768 27816-27818 27840-27844 27848- 27852 27861-27864 27890-27892 27896-27927 27989- 27990 28019-28038 28097-28100 28142-28147 28161 28192-28198 28204-28209 28290-28292 28311-28313 28315-28316 28361-28362 28365-28370 28420 28424 28435-28439 28464 28468-28484 29117-29123 29278- 29283 29309-29314 29332-29337 29364-29366 29378- 29379 29940-29953 30135-30142 30150-30156 30195- 30199 30224-30232 30240-30242 30361-30368
trachea	Clontech	TRC001	177-178 180-181 255-256 395 518-519 546-547 847-848 919-922 934-935 1312-1313 1431 1561 1667-1668 1875- 1877 1879-1880 1884-1892 2015-2018 2370-2373 2516 2926 2951-2955 3001 3165-3169 3322-3323 3441-3442 3525 3622-3623 3676 3840-3852 3949-3953 4067-4072 4151-4155 4158-4159 4386-4387 4515-4516 5056 5253- 5266 5337-5341 5530-5531 5846 6002-6004 6113 6226- 6234 7618-7621 7745-7746 7794 7806-7808 7988 8041- 8042 8342 8449-8452 8510-8511 8543-8550 8576-8582 8919-8933 9049-9062 9264-9265 9531 9729-9731 9739- 9742 9786-9790 9828 9848-9850 10306 10449-10450 10551-10554 10869 10980-10985 11123-11124 11252- 11273 11731-11734 11906-11907 12360 12374-12377 12432-12433 12760-12762 12872-12881 13609-13612 13632-13633 14004 14048-14053 14058-14059 14105- 14106 14170-14172 14207-14208 14546-14549 14604 15290-15291 15491-15495 15588-15589 16434-16437 16636-16637 16666-16667 16727-16733 17073 17455- 17456 17958-17962 18527 18633-18637 18673-18677 18796 18857-18880 18882-18888 18894-18896 18975 19057-19058 19074-19080 19084-19085 19138-19140 19362 19370 19401-19402 19422-19431 19494-19496 19749-19751 19764-19767 19953-19957 19962-19963 19972-19981 20257-20262 20265-20270 20289-20296 20441-20451 20472-20474 20548-20553 20631-20634 20698-20707 20727-20732 20792-20797 20813-20815 20929-20932 20952-20954 20973-20976 21060-21066 21097-21100 21137-21140 21171-21174 21297-21298 21403-21404 21410-21416 21447-21450 21973-21974 21978 22135-22138 22171-22175 22358-22359 22383- 22388 22455-22465 22551-22552 22634-22636 22760- 22762 22828-22829 22870-22874 22955-22957 22969- 22970 22972 23071 23222 23261-23262 23382-23385 23726-23730 23762-23763 23827-23833 23871-23875 23890-23892 24126-24129 24772-24774 25306 25347- 25354 26270-26272 26341-26344 26469-26470 26665- 26666 26876-26879 27052 27129-27132 27557-27559

Tissue origin	RNA Source	Library Name	SEQ ID NOS:
			27600-27601 27814-27815 27819-27820 28142-28145 28233-29367 30141-30142
uterus	Clontech	UTR001	124-125 188-191 227-230 251-252 301 329-331 738-740 919-922 1028 1047 1453-1454 1562-1564 1705-1714 1893-1901 1912-1913 2366 2374-2377 2926 2988-2989 3001 3205-3207 4557-4560 4712-4713 4971-4974 5903- 5906 5919-5921 6114-6136 6235-6237 6403-6404 6533- 6535 6625-6626 6932-6938 7678-7680 7728 7771 7798- 7801 7921-7923 7946 8010-8012 8084-8085 8090-8093 8137-8141 8313-8314 8368-8370 8415 8420-8421 8689- 8690 9072-9074 9264-9265 9517-9521 9535-9537 9577- 9578 9828-9832 9848-9850 9929-9935 9953 10033- 10037 10268-10272 10508-10512 10537-10538 10980- 10985 11071-11075 11135 11505-11506 11546 11609 11731-11734 11803-11804 12023-12026 12046-12049 12190-12191 12378-12397 12432-12433 12894-12897 13107-13117 13592-13597 13888-13895 13954-13956 14058-14059 14261-14263 14445-14447 14604 14650- 14651 14988-14992 15182-15183 15187-15189 15290- 15291 15390 15576-15577 15699-15700 15855-15857 16145-16146 16174-16176 16600 16643-16648 16716- 16723 16851-16853 17330-17332 17454 17958-17962 18015-18016 18527 18655-18658 18673-18677 18761 18789 18825-18834 18894-18896 18899-18903 18936- 18939 19036-19039 19074-19083 19362 19370 19375- 19379 19387-19389 19442-19444 19560-19562 19609- 19615 19693 19727-19732 19764-19767 19816-19818 19926-19929 19933-19937 19950 19981 20029-20043 20120 20122-20127 20146-20148 20151-20154 20289- 20296 20298 20328-20330 20366-20368 20401-20405 20427-20431 20469-20471 20491-20494 20554-20557 20602-20606 20629-20630 20649-20652 20689-20692 20753 20758-20767 20801-20805 20858-20862 20864 20938-20942 21005-21008 21072-21075 21213-21215 21281-21294 21377-21397 21911-21912 21955-21957 21978-21982 22019-22025 22050-22055 22090-22091 22187-22192 22218-22224 22251-22252 22261-22264 22358-22359 22362-22364 22373 22405-22408 22571- 22581 22622-22624 22644-22651 22663-22664 22887- 22891 22955-22957 22969-22970 23047-23050 23094- 23097 23141 23425-23427 23439-23447 23543-23544 24029-24033 24130-24144 25085-25090 25340-25341 25374-25375 25416-25417 26221-26223 26270-26272 26285-26290 26327 26607-26609 26676-26677 26755- 26756 26853-26854 26860-26862 27173-27174 27294 27348-27353 27493-27496 27602-27606 27636-27639 27649-27654 27729-27739 27861-27864 27896-27927 28105-28121 28133-28137 28311-28313 28424 28426- 28428 29339-29340 29378-29379 29962-29963 30150- 30156

\*The 16 tissue-mRNAs and their vendor source, are as follows: 1) Normal adult brain mRNA (Invitrogen), 2) normal adult kidney mRNA (Invitrogen), 3) normal adult liver mRNA (Invitrogen),

- • 4) normal fetal brain mRNA (Invitrogen), 5) normal fetal kidney mRNA (Invitrogen), 6) normal fetal liver mRNA (Invitrogen), 7) normal fetal skin mRNA (Invitrogen), 8) human adrenal gland mRNA (Clontech), 9) human bone marrow mRNA (Clontech), 10) human leukemia lymphablastic mRNA (Clontech), 11) human thymus mRNA (Clontech), 12) human lymph node mRNA (Clontech), 13) human spinal cord mRNA (Clontech), 14) human thyroid mRNA (Clontech), 15) human esophagus mRNA (BioChain), 16) human conceptional umbilical cord mRNA (BioChain).

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hnd	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1	30369	C	1	23	76	
2	30370	B	2	1	735	
3	30371	B	3	1	783	
4	30372	B	4	104	266	
5	30373	B	5	1	1113	
6	30374	C	6	3	164	
7	30375	B	7	112	279	
8	30376	B	8	198	405	
9	30377	B	9	1	687	
10	30378	C	10	346	598	
11	30379	B	11	1	960	
12	30380	B	12	44	350	
13	30381	B	13	264	465	
14	30382	B	14	483	1556	
15	30383	B	15	140	838	
16	30384	B	16	1	372	
17	30385	B	17	1	1404	
18	30386	B	18	25	2013	
19	30387	C	19	1	381	
20	30388	C	20	605	755	
21	30389	B	21	1	912	
22	30390	C	22	124	315	
23	30391	C	23	44	310	
24	30392	B	24	1	330	
25	30393	B	25	1	411	
26	30394	B	26	147	257	
27	30395	B	27	1	597	
28	30396	B	28	201	862	
29	30397	C	29	249	515	
30	30398	B	30	41	816	
31	30399	C	31	26	142	
32	30400	B	32	259	2328	
33	30401	B	33	1	759	
34	30402	B	34	964	2121	
35	30403	C	35	298	449	
36	30404	C	36	115	396	
37	30405	C	37	148	318	
38	30406	C	38	383	483	
39	30407	B	39	1	1125	
40	30408	B	40	1	831	
41	30409	C	41	363	602	
42	30410	B	42	1	324	
43	30411	B	43	64	199	
44	30412	B	44	1	1007	
45	30413	C	45	380	583	
46	30414	B	46	1	432	
47	30415	C	47	1	249	
48	30416	B	48	1	798	
49	30417	B	49	14	1070	
50	30418	C	50	1	225	
51	30419	B	51	1	2673	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
52	30420	B	52	1	258	
53	30421	B	54	1	624	
54	30422	C	55	166	333	
55	30423	B	56	298	380	
56	30424	C	57	139	379	
57	30425	B	58	1	157	
58	30426	B	59	1	447	
59	30427	B	60	1	579	
60	30428	B	61	1	1059	
61	30429	B	62	1	816	
62	30430	B	63	1	558	
63	30431	B	64	1	540	
64	30432	B	65	1	555	
65	30433	B	66	1	648	
66	30434	B	67	1	798	
67	30435	B	68	1	1455	
68	30436	B	69	1	1278	
69	30437	B	70	88	3012	
70	30438	B	71	1	1092	
71	30439	B	72	575	1033	
72	30440	B	73	644	926	
73	30441	B	74	1	1239	
74	30442	B	75	1	1074	
75	30443	B	76	81	467	
76	30444	C	77	44	286	
77	30445	B	78	1	297	
78	30446	B	79	1	978	
79	30447	B	80	72	715	
80	30448	B	81	1	1296	
81	30449	B	82	63	162	
82	30450	C	83	22	420	
83	30451	C	84	201	733	
84	30452	C	85	417	575	
85	30453	B	86	1	267	
86	30454	B	87	112	738	
87	30455	C	88	260	379	
88	30456	B	89	77	399	
89	30457	B	90	158	420	
90	30458	B	91	1	1437	
91	30459	C	92	22	321	
92	30460	B	93	1	843	
93	30461	B	94	142	2798	
94	30462	B	95	887	8434	
95	30463	B	96	1	1014	
96	30464	B	97	1	1197	
97	30465	B	98	16	555	
98	30466	B	99	1	423	
99	30467	B	100	1	651	
100	30468	B	101	233	556	
101	30469	B	102	192	883	
102	30470	C	103	65	274	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
103	30471	C	104	328	546	
104	30472	B	105	80	3900	
105	30473	B	106	1	951	
106	30474	C	107	1	279	
107	30475	C	108	246	368	
108	30476	B	109	1	819	
109	30477	B	110	1	634	
110	30478	B	111	1	379	
111	30479	B	112	80	2747	
112	30480	C	113	139	414	
113	30481	C	114	1	330	
114	30482	B	115	53	618	
115	30483	B	116	1	426	
116	30484	C	117	135	296	
117	30485	C	118	239	432	
118	30486	C	119	381	776	
119	30487	B	120	1	381	
120	30488	C	121	42	175	
121	30489	C	122	1	399	
122	30490	B	123	1	792	
123	30491	B	124	1	894	
124	30492	B	125	1	3498	
125	30493	B	126	8	874	
126	30494	B	127	1	2160	
127	30495	B	128	1	1776	
128	30496	B	129	1	567	
129	30497	B	130	195	728	
130	30498	B	131	1	615	
131	30499	B	132	1	420	
132	30500	B	133	661	2711	
133	30501	B	134	1	621	
134	30502	C	136	1	465	
135	30503	C	137	113	502	
136	30504	C	139	78	269	
137	30505	C	140	98	472	
138	30506	B	141	403	533	
139	30507	C	142	64	315	
140	30508	B	143	1	591	
141	30509	C	144	528	1151	
142	30510	C	145	1	414	
143	30511	B	146	1	936	
144	30512	C	147	91	195	
145	30513	C	148	562	705	
146	30514	C	149	122	313	
147	30515	B	150	566	1535	
148	30516	C	151	75	248	
149	30517	C	152	1	624	
150	30518	C	153	551	655	
151	30519	C	154	315	497	
152	30520	C	155	262	554	
153	30521	C	156	1	282	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
154	30522	B	157	1	508	
155	30523	C	158	243	545	
156	30524	B	159	8	395	
157	30525	C	160	33	194	
158	30526	B	161	50	355	
159	30527	B	162	128	1230	
160	30528	B	163	243	710	
161	30529	B	164	121	742	
162	30530	B	165	152	227	
163	30531	C	166	156	503	
164	30532	B	167	67	1280	
165	30533	B	168	1	444	
166	30534	B	169	161	206	
167	30535	B	170	189	1207	
168	30536	B	171	1	613	
169	30537	B	172	1	70	
170	30538	C	173	611	751	
171	30539	B	174	398	2472	
172	30540	B	175	87	646	
173	30541	B	176	1	1455	
174	30542	C	177	1	339	
175	30543	B	178	1	1458	
176	30544	B	179	278	766	
177	30545	B	181	85	749	
178	30546	B	182	50	498	
179	30547	C	183	1	522	
180	30548	B	184	90	482	
181	30549	B	185	86	442	
182	30550	C	187	129	308	
183	30551	C	188	1	414	
184	30552	B	190	1	378	
185	30553	C	192	252	308	
186	30554	B	193	1	576	
187	30555	C	194	1093	1311	
188	30556	B	195	45	324	
189	30557	B	196	1	249	
190	30558	C	197	309	443	
191	30559	C	198	615	866	
192	30560	B	199	86	1332	
193	30561	B	200	49	334	
194	30562	B	201	64	638	
195	30563	C	202	195	338	
196	30564	C	203	1	357	
197	30565	B	204	1	693	
198	30566	C	205	121	291	
199	30567	C	206	156	380	
200	30568	C	207	1211	1456	
201	30569	B	208	62	328	
202	30570	C	209	105	179	
203	30571	B	210	229	1483	
204	30572	B	211	1	749	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
205	30573	B	212	1	190	
206	30574	C	213	121	367	
207	30575	B	214	121	456	
208	30576	B	215	1	2631	
209	30577	B	216	63	419	
210	30578	B	217	114	485	
211	30579	B	218	628	1447	
212	30580	C	219	252	377	
213	30581	B	220	1	847	
214	30582	B	221	68	343	
215	30583	B	222	138	911	
216	30584	B	223	44	882	
217	30585	B	224	1	429	
218	30586	B	225	87	312	
219	30587	C	226	44	343	
220	30588	C	227	41	286	
221	30589	C	228	1145	1372	
222	30590	B	229	1	720	
223	30591	C	230	1	430	
224	30592	C	231	58	297	
225	30593	B	232	613	683	
226	30594	B	233	613	683	
227	30595	C	234	238	455	
228	30596	B	235	319	615	
229	30597	C	236	255	494	
230	30598	B	237	106	600	
231	30599	B	238	1	654	
232	30600	B	239	1	654	
233	30601	B	240	243	356	
234	30602	B	241	1	932	
235	30603	C	242	36	215	
236	30604	B	243	1	288	
237	30605	C	244	25	186	
238	30606	B	245	1	574	
239	30607	B	246	1	1257	
240	30608	B	247	162	263	
241	30609	C	248	79	207	
242	30610	B	249	194	276	
243	30611	B	250	1	1671	
244	30612	C	251	118	311	
245	30613	B	252	88	1485	
246	30614	B	253	339	443	
247	30615	B	254	667	1165	
248	30616	B	255	1	981	
249	30617	B	256	450	3131	
250	30618	B	257	900	1199	
251	30619	C	258	5	271	
252	30620	B	259	65	689	
253	30621	C	260	1	321	
254	30622	B	261	1	137	
255	30623	B	262	34	282	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
256	30624	B	263	46	856	
257	30625	C	264	157	468	
258	30626	B	265	148	403	
259	30627	C	266	248	481	
260	30628	B	267	171	393	
261	30629	B	268	1	1078	
262	30630	B	269	1	550	
263	30631	B	270	1	1455	
264	30632	B	271	171	602	
265	30633	B	272	1	1056	
266	30634	B	273	1	1101	
267	30635	B	274	1	2335	
268	30636	B	275	303	419	
269	30637	B	276	1	615	
270	30638	B	277	1	543	
271	30639	B	278	1	1602	
272	30640	C	279	585	1001	
273	30641	C	280	260	379	
274	30642	B	281	1	1437	
275	30643	C	282	22	321	
276	30644	B	283	1	843	
277	30645	B	284	142	2796	
278	30646	B	285	458	7217	
279	30647	B	286	84	186	
280	30648	C	287	67	229	
281	30649	C	288	15	245	
282	30650	C	289	125	232	
283	30651	B	290	1	594	
284	30652	B	291	376	670	
285	30653	C	292	82	405	
286	30654	B	293	35	651	
287	30655	B	294	56	487	
288	30656	C	295	313	498	
289	30657	C	296	118	261	
290	30658	B	297	198	1868	
291	30659	B	298	1	1665	
292	30660	C	299	73	108	
293	30661	B	300	1	408	
294	30662	B	301	1	444	
295	30663	B	302	8	311	
296	30664	C	303	144	350	
297	30665	B	304	1	669	
298	30666	C	305	416	820	
299	30667	B	306	253	837	
300	30668	B	307	44	475	
301	30669	B	308	185	885	
302	30670	C	309	206	337	
303	30671	B	310	1	393	
304	30672	B	311	1	1259	
305	30673	B	312	24	434	
306	30674	B	313	44	2687	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
307	30675	B	314	1	154	
308	30676	B	315	288	770	
309	30677	B	316	85	683	
310	30678	B	317	1	873	
311	30679	B	318	1	1737	
312	30680	C	319	1	690	
313	30681	B	320	58	1487	
314	30682	B	321	1	816	
315	30683	B	322	25	772	
316	30684	B	323	42	271	
317	30685	C	324	16	159	
318	30686	C	325	74	280	
319	30687	C	326	221	545	
320	30688	B	327	192	364	
321	30689	C	328	390	638	
322	30690	B	329	151	4215	
323	30691	B	330	1	2076	
324	30692	B	331	1	465	
325	30693	B	332	40	1350	
326	30694	B	333	1	489	
327	30695	B	334	285	744	
328	30696	C	335	96	347	
329	30697	C	336	213	326	
330	30698	B	337	776	4384	
331	30699	B	338	201	317	
332	30700	B	339	1	2713	
333	30701	B	340	1	894	
334	30702	B	341	1	3842	
335	30703	C	342	745	1131	
336	30704	B	343	82	411	
337	30705	B	344	126	2123	
338	30706	B	345	57	1641	
339	30707	C	346	211	654	
340	30708	B	347	44	266	
341	30709	B	348	1	927	
342	30710	C	349	20	124	
343	30711	C	350	9	455	
344	30712	C	351	188	304	
345	30713	C	352	1	333	
346	30714	C	353	140	298	
347	30715	B	354	73	2171	
348	30716	B	355	1	1374	
349	30717	B	356	150	398	
350	30718	B	357	1	585	
351	30719	B	358	1	1716	
352	30720	B	359	81	1912	
353	30721	B	360	249	770	
354	30722	B	361	474	2875	
355	30723	C	362	1	483	
356	30724	C	363	1	251	
357	30725	C	364	28	407	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4032	34400	A	4073	1	3417	
4033	34401	A	4074	1	3826	
4034	34402	A	4075	812	2578	FIRDFADFGTTIKQDFRLLGQTS VDRLLQLSQGQAVKGNQLLPV SLVKRKTTLAPNTQTASPRALA DSLMLARQVSRLESGHSNGN GQVSPIFHQTSSSTIRSCSCHLLT LNFLTQLNTSDIAVFHSTPKLL LVTSTITHMGLNTSQAQSVPI NSVAGSLAALQPVQFSQQLHSP HQQPLMQSPGSHMAQQPFMA AVTQLQNSHKFSHRSHGPGQS NDACSEPTNNKMRRNRFKWGP ASQQILYQAYDRQKNPSKEERE ALVEECNRVWQARRLGAFGKE DVHVSFAARRGAKFRHQTLG RRSSIPAPMVDSLIARVGVMA RGNAILPVCGRDVKFTLEVLR GDSVEKTSRVWSGNERDQELL TEDALDDLIPSFLLTGQQTAFG RRVSGVIEIADGSRRRKAAALT ESDYRVLVGELDDEQMAALSR LGNDYRPTSAYERGQRYASRL QNEFAGNISALADAENISRKIIT RCINTAKLPKSVVALFSPGELS ARSGDALQKAFDKEELLKQQ ACKL\HEQKKAGVGDNSIDSW KNAGRVFKDSDKFDANDPILK DQTQEWSGSATFTSDGKIRFIL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4035	34403	A	4076	1474	3367	REEGANSECLGRHGFKKMLYV KRDEVGKGQIRLETVFEQAIDQ RFSTDTSLSLTPAAPMVDSLIAV GVMARGNAITLPVCGRDVKFT LEVLRGDSVEKTSRVWSGNER DQELLTEDALDDLIPSFLLTGH KTPAFGQQRVSGVIEIADGSRRR KAAALTESDYRVLVGELDDEQ MAALSRLGNDYRPTSAYERGQ RYASRLQNEFAGNISALADAEN ISRKIITRCINTAKLPKSVVALFS HPGE\LSARSGKCMVPTESAPH VTVLGCQCGPLGLENLKEGY LGRSTLDMEAWQPLQEFYLN LITGQMFEIAVTQNNKINSSSP TTEQSWMENDFDELTEVGFR SVITNFSELKEHVLTHRKEAKN LEKSDGENGTKLENTFQDIIQE NFPNLARQVNIQIQEIQKTPQRY SSRRATPGHIIVRFTKVEMKEK VLRAAREKASLAPENLDNSKIR PVVILFHYGESWNLRLADQRLI FAKSWPRASRYQQGHQDLFILR SDLPSQVFIRDKLMERRNRRTG RTEKARIWEVTDRTVRTWIGEA VAAAAADGVTFSPVTPHTFR HSYAMHMLYAGIPLKVLQSLM GHKSISSTEVTYKVFALDVAAR HRVQFAMPESDAVAMLKQLS
4036	34404	A	4077	794	4235	RVSRGRKWWFIALKRMPAMKK AMNLFLGLSNVRTVHPEGFTV YISTHISFPSLSGYRTGLRSFGLV KQKKSPIRMPCVYTNTLCQYR KPDGSGIVSLKIDWIIERYQLPQ SYQRMPDFRRRFLQVCVNEINS RTPMRLSYIEKKKGRQTTHIDL ALKGLRVLLVEGNPDQGTASM YHGWWPDLHIHAEDTLLPFYLG EKDDVTYAIKPTCWPGLDIIPSC LALHRIETELMGKFDEGKLPTD PHLMLRLAIETVA
4037	34405	A	4078	1	2574	
4038	34406	A	4079	1	536	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
358	30726	C	365	88	204	
359	30727	B	366	474	684	
360	30728	C	367	41	394	
361	30729	B	368	253	1044	
362	30730	B	369	468	1111	
363	30731	B	370	1	558	
364	30732	B	371	21	345	
365	30733	B	372	1	744	
366	30734	B	373	1	795	
367	30735	B	374	1	685	
368	30736	B	375	94	414	
369	30737	C	376	86	268	
370	30738	B	377	1	1003	
371	30739	B	378	41	1385	
372	30740	B	379	1	510	
373	30741	B	380	40	746	
374	30742	B	381	100	1991	
375	30743	B	382	1	267	
376	30744	C	383	168	278	
377	30745	C	384	173	208	
378	30746	B	385	141	4538	
379	30747	B	386	1	4086	
380	30748	C	387	398	474	
381	30749	B	388	1	762	
382	30750	B	389	1	1584	
383	30751	B	390	1	2703	
384	30752	B	391	1	489	
385	30753	B	392	527	780	
386	30754	B	393	1	4050	
387	30755	B	394	859	2958	
388	30756	B	395	639	2307	
389	30757	B	396	1	642	
390	30758	B	397	1	3639	
391	30759	B	398	219	540	
392	30760	B	399	1	3225	
393	30761	B	400	1	7552	
394	30762	C	401	626	1201	
395	30763	C	402	627	827	
396	30764	C	403	1	243	
397	30765	B	404	335	538	
398	30766	B	405	41	409	
399	30767	B	406	160	540	
400	30768	B	407	1	597	
401	30769	B	408	1	1605	
402	30770	B	409	1	351	
403	30771	B	410	65	601	
404	30772	B	411	1	870	
405	30773	B	412	91	2867	
406	30774	B	413	33	410	
407	30775	B	414	298	343	
408	30776	B	415	70	310	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
409	30777	B	416	64	1929	
410	30778	B	417	1	298	
411	30779	B	418	37	2612	
412	30780	B	419	1	510	
413	30781	B	420	44	1111	
414	30782	B	421	26	175	
415	30783	C	422	7	57	
416	30784	C	423	27	230	
417	30785	C	424	7	144	
418	30786	B	425	1	1746	
419	30787	C	426	318	486	
420	30788	B	427	896	1115	
421	30789	C	428	106	309	
422	30790	C	429	52	402	
423	30791	B	430	1	309	
424	30792	B	431	167	492	
425	30793	C	432	144	296	
426	30794	B	433	1	786	
427	30795	B	434	336	1303	
428	30796	B	435	333	419	
429	30797	B	436	1	489	
430	30798	C	437	1	199	
431	30799	C	438	110	239	
432	30800	C	439	175	303	
433	30801	C	440	35	181	
434	30802	B	441	1	1896	
435	30803	C	442	1	331	
436	30804	C	443	71	344	
437	30805	C	444	25	135	
438	30806	C	445	406	595	
439	30807	C	446	148	228	
440	30808	C	447	80	106	
441	30809	C	448	7	375	
442	30810	C	449	300	437	
443	30811	C	450	1	357	
444	30812	B	451	1	729	
445	30813	B	452	58	1287	
446	30814	C	453	1	410	
447	30815	C	454	1	411	
448	30816	C	455	1	420	
449	30817	B	456	1	555	
450	30818	B	457	376	1035	
451	30819	B	458	678	807	
452	30820	B	459	88	1485	
453	30821	B	460	300	2082	
454	30822	B	461	1	819	
455	30823	B	462	780	998	
456	30824	B	463	1	1871	
457	30825	B	464	1	1703	
458	30826	B	465	1	594	
459	30827	C	466	120	245	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
460	30828	C	467	1	387	
461	30829	B	468	1	1678	
462	30830	B	469	1	533	
463	30831	B	470	347	656	
464	30832	B	471	1	1098	
465	30833	B	472	224	1518	
466	30834	C	473	44	244	
467	30835	B	474	1	1251	
468	30836	B	475	1	428	
469	30837	B	476	1	495	
470	30838	C	477	233	373	
471	30839	B	478	8	950	
472	30840	C	479	1	813	
473	30841	B	480	1	1071	
474	30842	C	481	224	418	
475	30843	B	482	39	851	
476	30844	B	483	1	2006	
477	30845	B	484	1	561	
478	30846	B	485	167	227	
479	30847	B	486	1	777	
480	30848	B	487	1	645	
481	30849	B	488	1	1749	
482	30850	C	489	26	847	
483	30851	C	490	243	392	
484	30852	C	491	303	407	
485	30853	C	492	23	300	
486	30854	B	493	131	336	
487	30855	C	494	64	156	
488	30856	B	495	180	712	
489	30857	B	496	1	1104	
490	30858	B	497	24	917	
491	30859	B	498	65	228	
492	30860	B	499	1	2172	
493	30861	B	500	1	1338	
494	30862	B	501	1	795	
495	30863	C	502	181	410	
496	30864	B	503	69	1322	
497	30865	B	504	531	1315	
498	30866	C	505	24	320	
499	30867	B	506	1	791	
500	30868	B	507	1	3256	
501	30869	C	508	361	549	
502	30870	B	509	729	3252	
503	30871	B	510	424	1710	
504	30872	C	511	247	750	
505	30873	B	512	11	124	
506	30874	B	514	116	1079	
507	30875	B	515	1	766	
508	30876	B	516	185	796	
509	30877	B	517	1	456	
510	30878	B	518	99	435	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
511	30879	B	519	1	834	
512	30880	B	520	54	246	
513	30881	B	521	1	372	
514	30882	C	522	78	305	
515	30883	C	523	329	484	
516	30884	B	524	1	459	
517	30885	B	525	630	889	
518	30886	B	526	95	343	
519	30887	B	527	353	610	
520	30888	B	528	113	529	
521	30889	B	529	362	1400	
522	30890	B	530	1	441	
523	30891	C	531	1	327	
524	30892	B	532	1	909	
525	30893	B	534	669	1268	
526	30894	B	535	293	826	
527	30895	C	536	12	155	
528	30896	C	537	1488	1706	
529	30897	C	538	26	211	
530	30898	C	539	30	185	
531	30899	B	540	1	789	
532	30900	B	541	63	358	
533	30901	B	542	1	900	
534	30902	B	543	1	728	
535	30903	B	544	112	220	
536	30904	B	545	49	386	
537	30905	B	546	1	585	
538	30906	B	547	328	531	
539	30907	B	548	10	987	
540	30908	B	549	49	248	
541	30909	B	550	131	368	
542	30910	B	551	80	1098	
543	30911	B	552	1	1364	
544	30912	B	553	1	1294	
545	30913	B	554	1	1995	
546	30914	B	555	1	279	
547	30915	B	556	175	715	
548	30916	B	557	1	636	
549	30917	B	558	1331	1600	
550	30918	B	559	32	406	
551	30919	B	560	38	206	
552	30920	B	561	1	1266	
553	30921	C	562	359	501	
554	30922	B	563	315	465	
555	30923	B	564	94	1683	
556	30924	B	565	1	1570	
557	30925	B	566	139	1734	
558	30926	B	567	1	810	
559	30927	B	568	658	1548	
560	30928	B	569	9	395	
561	30929	B	570	1	567	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
562	30930	B	571	1	567	
563	30931	B	572	1	789	
564	30932	B	573	49	3187	
565	30933	B	574	1	1824	
566	30934	B	575	49	1413	
567	30935	B	576	1	1572	
568	30936	C	577	372	468	
569	30937	C	578	58	225	
570	30938	B	579	79	299	
571	30939	B	580	1	645	
572	30940	C	581	582	749	
573	30941	B	582	170	463	
574	30942	B	583	311	520	
575	30943	B	584	1	1074	
576	30944	B	585	39	140	
577	30945	B	586	60	1685	
578	30946	B	587	106	879	
579	30947	C	588	67	362	
580	30948	B	589	45	126	
581	30949	C	590	1	390	
582	30950	C	591	49	240	
583	30951	B	592	1	496	
584	30952	B	593	94	482	
585	30953	C	594	12	341	
586	30954	B	595	1	354	
587	30955	B	596	1	711	
588	30956	B	597	123	412	
589	30957	B	598	1	1107	
590	30958	B	599	1	800	
591	30959	C	600	82	408	
592	30960	B	601	1	3174	
593	30961	B	602	1	444	
594	30962	B	603	1	1671	
595	30963	B	604	1	603	
596	30964	B	605	339	443	
597	30965	C	606	237	380	
598	30966	B	607	1	771	
599	30967	B	608	1	1767	
600	30968	C	609	1	801	
601	30969	B	610	1	1062	
602	30970	B	611	450	3131	
603	30971	C	612	178	435	
604	30972	C	613	164	319	
605	30973	C	614	1	385	
606	30974	C	615	392	853	
607	30975	C	616	24	200	
608	30976	C	617	34	327	
609	30977	B	618	1	624	
610	30978	B	619	179	1222	
611	30979	B	620	1	916	
612	30980	B	621	151	339	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
613	30981	B	622	135	218	
614	30982	B	623	126	300	
615	30983	C	624	258	467	
616	30984	B	625	58	1038	
617	30985	B	626	246	4677	
618	30986	B	627	1	583	
619	30987	C	628	65	283	
620	30988	B	629	162	909	
621	30989	B	630	1	1062	
622	30990	B	631	1	909	
623	30991	C	632	160	297	
624	30992	B	633	352	1143	
625	30993	C	634	301	459	
626	30994	B	635	1	906	
627	30995	B	636	1	654	
628	30996	B	637	1	528	
629	30997	B	638	1	1102	
630	30998	C	639	81	299	
631	30999	B	640	1	345	
632	31000	B	641	39	360	
633	31001	B	642	22	293	
634	31002	C	643	1	504	
635	31003	B	644	107	3786	
636	31004	B	645	1	576	
637	31005	B	646	66	152	
638	31006	B	647	226	522	
639	31007	B	648	1	49	
640	31008	C	649	50	172	
641	31009	C	650	1	516	
642	31010	B	651	1	615	
643	31011	B	652	1	495	
644	31012	B	653	1	663	
645	31013	B	654	1	1812	
646	31014	B	655	1	1401	
647	31015	B	656	102	1151	
648	31016	B	657	1	385	
649	31017	B	658	232	987	
650	31018	B	659	1	1221	
651	31019	B	660	296	496	
652	31020	B	661	57	285	
653	31021	C	662	203	271	
654	31022	B	663	1	711	
655	31023	C	664	351	542	
656	31024	C	665	420	695	
657	31025	B	666	1	1860	
658	31026	B	667	71	2167	
659	31027	B	668	6	344	
660	31028	B	669	217	693	
661	31029	C	670	1	417	
662	31030	B	671	1	990	
663	31031	B	672	109	1169	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
664	31032	C	673	40	117	
665	31033	C	674	301	560	
666	31034	B	675	1	396	
667	31035	B	676	483	1033	/
668	31036	B	677	673	3407	
669	31037	B	678	4	672	
670	31038	C	679	39	116	
671	31039	B	680	1	459	
672	31040	B	681	19	370	
673	31041	B	682	112	704	
674	31042	C	683	387	578	
675	31043	B	684	175	254	
676	31044	B	685	1	501	
677	31045	B	686	290	389	
678	31046	B	687	1	486	
679	31047	B	688	1	651	
680	31048	B	689	181	401	
681	31049	B	690	117	406	
682	31050	B	691	1	169	
683	31051	B	692	1	1539	
684	31052	B	693	1	475	
685	31053	B	694	1	1575	
686	31054	B	695	1	507	
687	31055	B	696	1	498	
688	31056	C	697	253	492	
689	31057	B	698	1	588	
690	31058	B	699	75	291	
691	31059	B	700	1	1355	
692	31060	B	701	112	259	
693	31061	C	702	492	833	
694	31062	B	703	297	483	
695	31063	B	704	45	471	
696	31064	C	705	175	318	
697	31065	B	706	1	1074	
698	31066	B	707	94	1180	
699	31067	B	708	1	3866	
700	31068	C	709	215	424	
701	31069	B	710	1	499	
702	31070	B	711	210	325	
703	31071	B	712	1	786	
704	31072	B	713	1	777	
705	31073	B	714	174	1804	
706	31074	B	715	17	368	
707	31075	B	716	769	1831	
708	31076	B	717	76	301	
709	31077	B	718	1	825	
710	31078	C	719	1	396	
711	31079	B	720	93	2449	
712	31080	B	721	408	687	
713	31081	B	722	97	662	
714	31082	B	723	169	610	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
715	31083	B	724	1	2511	
716	31084	C	725	104	410	
717	31085	C	726	75	527	
718	31086	C	727	7	263	
719	31087	B	728	40	1725	
720	31088	B	729	290	1671	
721	31089	B	730	46	465	
722	31090	C	731	378	644	
723	31091	B	732	48	2331	
724	31092	B	733	1	738	
725	31093	B	734	1	1051	
726	31094	B	735	1	840	
727	31095	C	736	291	551	
728	31096	B	737	1	1308	
729	31097	B	738	1	291	
730	31098	C	739	1	702	
731	31099	B	740	1	379	
732	31100	B	741	80	2747	
733	31101	B	742	1	1992	
734	31102	B	743	293	1296	
735	31103	C	744	769	1017	
736	31104	C	745	166	294	
737	31105	B	746	928	1483	
738	31106	B	747	247	375	
739	31107	C	748	47	582	
740	31108	B	749	47	388	
741	31109	B	750	53	458	
742	31110	C	751	32	277	
743	31111	B	752	1	1641	
744	31112	C	753	1	483	
745	31113	B	754	1	1518	
746	31114	B	755	1	321	
747	31115	C	756	604	779	
748	31116	B	757	695	967	
749	31117	B	758	1	768	
750	31118	B	759	101	531	
751	31119	B	760	1	1014	
752	31120	C	761	424	564	
753	31121	B	762	1	333	
754	31122	B	763	15	165	
755	31123	B	764	1	555	
756	31124	B	765	344	476	
757	31125	B	766	1	648	
758	31126	B	767	1	981	
759	31127	C	768	22	162	
760	31128	B	769	1	225	
761	31129	B	770	232	1671	
762	31130	B	771	166	504	
763	31131	B	772	473	1694	
764	31132	C	773	232	414	
765	31133	C	774	374	463	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
766	31134	B	775	1	1128	
767	31135	B	776	337	1284	
768	31136	C	777	25	282	
769	31137	C	778	4	63	
770	31138	C	779	496	1041	
771	31139	C	780	234	365	
772	31140	B	781	1	669	
773	31141	B	782	228	305	
774	31142	B	783	102	755	
775	31143	B	784	1	465	
776	31144	B	785	45	336	
777	31145	C	786	220	366	
778	31146	B	787	332	456	
779	31147	B	788	169	450	
780	31148	B	789	1	1173	
781	31149	B	790	36	355	
782	31150	C	791	354	482	
783	31151	C	792	328	708	
784	31152	B	793	1	829	
785	31153	B	794	14	182	
786	31154	B	795	307	1412	
787	31155	C	796	3	332	
788	31156	B	797	57	704	
789	31157	B	798	1	2406	
790	31158	C	799	1	759	
791	31159	B	800	1	351	
792	31160	B	801	142	272	
793	31161	B	802	34	2951	
794	31162	B	803	92	994	
795	31163	B	804	115	1746	
796	31164	C	805	292	408	
797	31165	B	806	1	880	
798	31166	C	807	156	329	
799	31167	C	808	119	328	
800	31168	C	809	1	492	
801	31169	B	810	1	516	
802	31170	B	811	1	624	
803	31171	B	812	24	1868	
804	31172	C	813	164	208	
805	31173	C	814	91	249	
806	31174	B	815	1	1059	
807	31175	C	816	80	106	
808	31176	C	817	283	408	
809	31177	C	818	1	357	
810	31178	C	819	1	909	
811	31179	B	820	26	71	
812	31180	B	821	1	714	
813	31181	B	822	1	678	
814	31182	B	823	1	675	
815	31183	B	824	24	1046	
816	31184	B	825	1	933	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in U/SSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
817	31185	B	826	1	363	
818	31186	B	827	112	1655	
819	31187	B	828	1	417	
820	31188	B	829	88	1485	
821	31189	C	830	1	411	
822	31190	B	831	114	277	
823	31191	C	832	671	1039	
824	31192	B	833	63	342	
825	31193	B	834	3530	4798	
826	31194	B	835	1	333	
827	31195	B	836	1	831	
828	31196	B	837	1	2514	
829	31197	B	838	98	250	
830	31198	B	839	1	5247	
831	31199	B	840	1	531	
832	31200	B	841	167	466	
833	31201	B	842	160	417	
834	31202	B	843	215	380	
835	31203	B	844	706	1262	
836	31204	B	845	41	368	
837	31205	C	846	252	578	
838	31206	C	847	18	380	
839	31207	C	848	14	349	
840	31208	B	849	1	1176	
841	31209	B	850	244	1174	
842	31210	C	851	27	146	
843	31211	B	852	217	1866	
844	31212	B	853	98	242	
845	31213	B	854	52	2112	
846	31214	B	855	98	242	
847	31215	C	856	237	518	
848	31216	C	857	1	528	
849	31217	C	858	213	365	
850	31218	B	859	86	478	
851	31219	B	860	1	903	
852	31220	B	861	191	539	
853	31221	C	862	283	480	
854	31222	B	863	248	738	
855	31223	B	864	7	1602	
856	31224	B	865	113	375	
857	31225	B	866	50	435	
858	31226	B	867	50	646	
859	31227	B	868	1	2292	
860	31228	B	869	1	2385	
861	31229	B	870	184	852	
862	31230	B	871	1	408	
863	31231	B	872	218	484	
864	31232	B	873	90	588	
865	31233	B	874	445	625	
866	31234	B	875	138	618	
867	31235	B	876	1	753	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
868	31236	B	877	1	489	
869	31237	B	878	113	366	
870	31238	C	879	271	489	
871	31239	B	880	918	3257	
872	31240	B	881	185	631	
873	31241	C	882	3	194	
874	31242	B	883	80	3219	
875	31243	B	884	213	1835	
876	31244	C	885	132	224	
877	31245	B	886	1	741	
878	31246	C	887	132	224	
879	31247	B	888	1	1281	
880	31248	B	889	125	1910	
881	31249	B	890	1	1449	
882	31250	B	891	284	696	
883	31251	B	892	139	390	
884	31252	B	893	1	1308	
885	31253	B	894	1	594	
886	31254	B	895	1	678	
887	31255	B	896	19	240	
888	31256	B	897	47	330	
889	31257	B	898	1	388	
890	31258	B	899	52	564	
891	31259	C	900	310	672	
892	31260	B	901	1	1338	
893	31261	C	902	77	214	
894	31262	C	903	213	467	
895	31263	C	904	202	426	
896	31264	B	905	68	567	
897	31265	C	906	32	205	
898	31266	C	907	513	701	
899	31267	B	908	1	1083	
900	31268	B	909	787	1633	
901	31269	C	910	40	288	
902	31270	B	911	178	330	
903	31271	B	912	129	520	
904	31272	B	913	2267	2626	
905	31273	C	914	34	87	
906	31274	B	915	23	610	
907	31275	B	916	1	1011	
908	31276	B	917	1	156	
909	31277	B	918	1	754	
910	31278	B	919	1	679	
911	31279	B	920	149	761	
912	31280	B	921	38	1175	
913	31281	C	922	542	724	
914	31282	B	923	31	283	
915	31283	B	924	21	341	
916	31284	B	925	199	361	
917	31285	B	926	293	427	
918	31286	B	927	56	145	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
919	31287	B	928	21	341	
920	31288	B	929	199	361	
921	31289	B	930	293	427	
922	31290	B	931	305	465	
923	31291	B	932	280	457	
924	31292	C	933	45	562	
925	31293	B	934	130	618	
926	31294	B	935	418	1620	
927	31295	B	936	115	252	
928	31296	B	937	1	573	
929	31297	B	938	1	2661	
930	31298	B	939	1	1345	
931	31299	C	940	747	1220	
932	31300	C	941	249	429	
933	31301	B	942	1	363	
934	31302	C	943	390	589	
935	31303	B	944	437	1553	
936	31304	B	945	1	1521	
937	31305	C	946	84	347	
938	31306	B	949	80	315	
939	31307	B	950	1	537	
940	31308	C	951	181	330	
941	31309	C	952	55	123	
942	31310	C	953	52	195	
943	31311	C	954	55	123	
944	31312	B	955	336	648	
945	31313	B	956	1	894	
946	31314	B	957	239	1008	
947	31315	B	958	126	308	
948	31316	B	959	1	747	
949	31317	B	960	101	351	
950	31318	B	961	179	1161	
951	31319	B	962	1	138	
952	31320	B	963	8	791	
953	31321	C	964	218	358	
954	31322	C	965	155	454	
955	31323	C	966	124	303	
956	31324	C	967	1	246	
957	31325	B	968	208	364	
958	31326	C	969	95	256	
959	31327	C	970	312	467	
960	31328	B	971	92	424	
961	31329	B	972	88	147	
962	31330	C	973	434	775	
963	31331	B	974	26	1781	
964	31332	C	975	363	692	
965	31333	B	976	201	563	
966	31334	B	977	348	687	
967	31335	C	978	529	660	
968	31336	C	979	418	738	
969	31337	C	980	25	177	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
970	31338	B	981	308	388	
971	31339	C	982	230	580	
972	31340	B	983	101	342	
973	31341	B	984	1	2341	
974	31342	C	985	1	642	
975	31343	B	986	1	1173	
976	31344	B	987	39	6743	
977	31345	B	988	1	516	
978	31346	B	989	1	756	
979	31347	B	990	1	912	
980	31348	B	991	310	441	
981	31349	C	992	58	300	
982	31350	B	993	80	1344	
983	31351	C	994	325	414	
984	31352	B	995	80	1582	
985	31353	C	996	143	499	
986	31354	B	997	173	375	
987	31355	C	998	126	268	
988	31356	B	999	1	762	
989	31357	B	1000	1	642	
990	31358	B	1001	1	1980	
991	31359	B	1002	67	456	
992	31360	B	1003	48	335	
993	31361	B	1004	1	1251	
994	31362	B	1005	1	642	
995	31363	B	1006	1	570	
996	31364	C	1007	1	687	
997	31365	B	1008	1	5450	
998	31366	B	1009	586	852	
999	31367	B	1010	299	530	
1000	31368	B	1011	1	1659	
1001	31369	B	1012	2	550	
1002	31370	C	1013	2	97	
1003	31371	B	1014	1114	1476	
1004	31372	B	1015	22	822	
1005	31373	C	1016	646	903	
1006	31374	C	1017	1	351	
1007	31375	B	1018	226	1284	
1008	31376	B	1019	138	997	
1009	31377	B	1020	341	527	
1010	31378	B	1021	157	1415	
1011	31379	B	1022	55	211	
1012	31380	B	1023	55	211	
1013	31381	C	1024	18	197	
1014	31382	B	1025	1	876	
1015	31383	B	1026	276	487	
1016	31384	B	1027	1	294	
1017	31385	B	1028	273	377	
1018	31386	B	1029	1	936	
1019	31387	B	1030	1	1158	
1020	31388	C	1031	104	283	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1021	31389	B	1032	1	720	
1022	31390	B	1033	1	219	
1023	31391	B	1034	1	170	
1024	31392	B	1035	300	831	
1025	31393	C	1036	1	456	
1026	31394	B	1037	1	1149	
1027	31395	B	1038	1	627	
1028	31396	B	1039	161	375	
1029	31397	B	1040	1	360	
1030	31398	B	1041	1	549	
1031	31399	B	1042	1	384	
1032	31400	B	1046	1	675	
1033	31401	C	1047	379	675	
1034	31402	B	1048	166	388	
1035	31403	B	1049	26	66	
1036	31404	B	1050	1	897	
1037	31405	B	1051	30	1359	
1038	31406	B	1052	1	990	
1039	31407	B	1053	52	1507	
1040	31408	C	1054	66	290	
1041	31409	B	1055	158	2072	
1042	31410	B	1056	1	654	
1043	31411	B	1057	51	1143	
1044	31412	C	1058	66	290	
1045	31413	B	1059	547	1510	
1046	31414	B	1060	1	1499	
1047	31415	B	1061	1	3347	
1048	31416	C	1062	116	235	
1049	31417	B	1063	1	1185	
1050	31418	C	1064	221	823	
1051	31419	B	1065	235	359	
1052	31420	C	1066	1	360	
1053	31421	B	1067	49	386	
1054	31422	C	1068	63	383	
1055	31423	B	1069	60	213	
1056	31424	B	1070	1	919	
1057	31425	B	1071	294	557	
1058	31426	B	1072	1	486	
1059	31427	B	1073	1	450	
1060	31428	C	1074	28	207	
1061	31429	B	1075	1	585	
1062	31430	B	1076	60	213	
1063	31431	B	1077	18	457	
1064	31432	B	1078	112	177	
1065	31433	C	1079	1	375	
1066	31434	B	1080	39	91	
1067	31435	B	1081	91	237	
1068	31436	B	1082	255	376	
1069	31437	B	1083	18	431	
1070	31438	B	1084	98	552	
1071	31439	B	1085	1679	1964	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1072	31440	B	1086	132	1200	
1073	31441	B	1087	95	418	
1074	31442	B	1088	26	56	
1075	31443	B	1089	1	873	
1076	31444	C	1090	107	196	
1077	31445	B	1091	157	777	
1078	31446	B	1092	1	1273	
1079	31447	B	1093	1	202	
1080	31448	B	1094	1	382	
1081	31449	C	1095	189	449	
1082	31450	C	1096	325	429	
1083	31451	C	1097	3	80	
1084	31452	B	1098	50	691	
1085	31453	B	1099	1	474	
1086	31454	B	1100	3	335	
1087	31455	B	1101	137	617	
1088	31456	C	1102	69	134	
1089	31457	B	1103	369	886	
1090	31458	B	1104	1	1332	
1091	31459	B	1105	106	584	
1092	31460	C	1106	97	420	
1093	31461	C	1107	142	381	
1094	31462	B	1108	214	2544	
1095	31463	B	1109	238	1323	
1096	31464	B	1110	1	3000	
1097	31465	B	1111	203	313	
1098	31466	B	1112	288	375	
1099	31467	B	1113	1	480	
1100	31468	C	1114	286	351	
1101	31469	B	1115	59	376	
1102	31470	C	1116	287	504	
1103	31471	B	1117	878	2032	
1104	31472	B	1118	52	648	
1105	31473	B	1119	1	207	
1106	31474	C	1120	1	492	
1107	31475	B	1121	46	830	
1108	31476	B	1122	1	525	
1109	31477	B	1123	1	930	
1110	31478	C	1124	157	606	
1111	31479	C	1125	70	405	
1112	31480	C	1126	247	411	
1113	31481	C	1127	339	590	
1114	31482	B	1128	1	1881	
1115	31483	C	1129	258	452	
1116	31484	B	1130	241	733	
1117	31485	C	1131	294	530	
1118	31486	B	1132	1	439	
1119	31487	B	1133	16	612	
1120	31488	C	1134	234	377	
1121	31489	B	1135	134	763	
1122	31490	C	1136	1	228	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1123	31491	B	1137	63	443	
1124	31492	C	1138	30	269	
1125	31493	B	1139	44	151	
1126	31494	B	1140	69	199	
1127	31495	B	1141	347	2830	
1128	31496	B	1142	1	576	
1129	31497	C	1143	49	129	
1130	31498	B	1144	1	1107	
1131	31499	B	1145	17	153	
1132	31500	B	1146	277	694	
1133	31501	B	1147	1	735	
1134	31502	B	1148	1	1110	
1135	31503	B	1149	55	552	
1136	31504	C	1150	463	591	
1137	31505	B	1151	136	266	
1138	31506	B	1152	1	795	
1139	31507	B	1153	128	880	
1140	31508	C	1154	178	366	
1141	31509	B	1155	1	654	
1142	31510	B	1156	1	3294	
1143	31511	B	1157	16	854	
1144	31512	B	1158	1093	1185	
1145	31513	B	1159	1	930	
1146	31514	B	1160	1	3969	
1147	31515	B	1161	1	4173	
1148	31516	B	1162	1	2187	
1149	31517	B	1163	47	993	
1150	31518	B	1164	1	1241	
1151	31519	B	1165	46	2170	
1152	31520	B	1166	1	1781	
1153	31521	B	1167	179	583	
1154	31522	C	1168	167	442	
1155	31523	B	1169	44	1848	
1156	31524	C	1170	1	417	
1157	31525	B	1171	1	198	
1158	31526	B	1172	231	452	
1159	31527	B	1173	219	326	
1160	31528	B	1174	212	302	
1161	31529	B	1175	748	1084	
1162	31530	B	1176	1	540	
1163	31531	C	1177	21	143	
1164	31532	B	1178	76	1300	
1165	31533	B	1179	1	1324	
1166	31534	B	1180	1	1065	
1167	31535	B	1181	1	1263	
1168	31536	B	1182	1	1809	
1169	31537	B	1183	10	406	
1170	31538	B	1184	65	287	
1171	31539	B	1185	25	337	
1172	31540	B	1186	59	698	
1173	31541	C	1187	329	527	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1174	31542	B	1188	1	1068	
1175	31543	B	1189	72	330	
1176	31544	B	1190	14	239	
1177	31545	B	1191	1	919	
1178	31546	B	1192	462	786	
1179	31547	B	1193	1	3468	
1180	31548	B	1194	16	457	
1181	31549	B	1195	1	697	
1182	31550	C	1196	1	145	
1183	31551	B	1197	91	450	
1184	31552	B	1198	1	1050	
1185	31553	B	1199	101	428	
1186	31554	B	1200	41	205	
1187	31555	B	1201	358	1082	
1188	31556	B	1202	1	183	
1189	31557	B	1203	1	1053	
1190	31558	B	1204	73	336	
1191	31559	B	1205	553	1587	
1192	31560	C	1206	118	366	
1193	31561	B	1207	1	423	
1194	31562	B	1208	120	338	
1195	31563	B	1209	1	1665	
1196	31564	B	1210	1	639	
1197	31565	B	1211	1	660	
1198	31566	B	1212	11	434	
1199	31567	B	1213	1	567	
1200	31568	B	1214	1	801	
1201	31569	C	1215	56	177	
1202	31570	B	1216	439	678	
1203	31571	B	1217	20	201	
1204	31572	B	1218	74	267	
1205	31573	B	1219	74	325	
1206	31574	B	1220	37	340	
1207	31575	B	1221	1	588	
1208	31576	B	1222	136	294	
1209	31577	B	1223	238	392	
1210	31578	B	1224	109	1394	
1211	31579	C	1225	300	653	
1212	31580	B	1226	32	3327	
1213	31581	B	1227	497	1306	
1214	31582	C	1228	1	333	
1215	31583	C	1229	1	249	
1216	31584	C	1230	1	249	
1217	31585	B	1231	147	297	
1218	31586	B	1232	1	714	
1219	31587	B	1233	1	1587	
1220	31588	C	1234	103	243	
1221	31589	C	1235	133	509	
1222	31590	B	1236	1	1594	
1223	31591	B	1237	1	628	
1224	31592	B	1238	1	948	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1225	31593	B	1239	382	1020	
1226	31594	B	1240	163	5459	
1227	31595	B	1241	1	1386	
1228	31596	B	1242	44	344	
1229	31597	B	1243	6	398	
1230	31598	B	1244	77	468	
1231	31599	B	1245	520	2001	
1232	31600	B	1246	1	645	
1233	31601	B	1247	91	690	
1234	31602	B	1248	70	382	
1235	31603	B	1249	183	427	
1236	31604	B	1250	159	621	
1237	31605	B	1251	34	259	
1238	31606	B	1252	155	496	
1239	31607	B	1253	1	1416	
1240	31608	C	1254	18	355	
1241	31609	C	1255	665	826	
1242	31610	B	1256	1	559	
1243	31611	B	1257	343	1329	
1244	31612	B	1258	1	265	
1245	31613	B	1259	1	5081	
1246	31614	B	1260	373	1395	
1247	31615	B	1261	83	373	
1248	31616	B	1262	298	1252	
1249	31617	C	1263	142	327	
1250	31618	B	1264	1	237	
1251	31619	C	1265	1	330	
1252	31620	C	1266	20	358	
1253	31621	C	1267	347	493	
1254	31622	B	1268	220	1314	
1255	31623	B	1269	1	1244	
1256	31624	B	1270	35	368	
1257	31625	B	1271	145	444	
1258	31626	B	1272	1	657	
1259	31627	B	1273	84	273	
1260	31628	C	1274	47	148	
1261	31629	B	1275	1	528	
1262	31630	B	1276	34	1370	
1263	31631	C	1277	81	299	
1264	31632	C	1278	22	201	
1265	31633	B	1279	1	672	
1266	31634	B	1280	1	753	
1267	31635	C	1281	14	79	
1268	31636	C	1282	61	227	
1269	31637	B	1283	95	1124	
1270	31638	B	1284	1	891	
1271	31639	B	1285	1	1323	
1272	31640	B	1286	11	127	
1273	31641	B	1287	281	437	
1274	31642	C	1288	62	136	
1275	31643	B	1289	251	874	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1276	31644	C	1290	16	231	
1277	31645	C	1291	299	412	
1278	31646	B	1292	310	968	
1279	31647	B	1293	237	1802	
1280	31648	B	1294	337	1143	
1281	31649	C	1295	75	176	
1282	31650	C	1296	193	414	
1283	31651	C	1297	98	679	
1284	31652	B	1298	186	260	
1285	31653	B	1299	1	732	
1286	31654	B	1300	123	268	
1287	31655	C	1301	1	420	
1288	31656	C	1302	86	223	
1289	31657	B	1303	1	594	
1290	31658	B	1304	1	4464	
1291	31659	C	1305	1	531	
1292	31660	B	1307	1	780	
1293	31661	C	1308	1	249	
1294	31662	B	1309	1	139	
1295	31663	B	1310	1	156	
1296	31664	B	1311	38	403	
1297	31665	B	1312	128	1089	
1298	31666	C	1313	262	429	
1299	31667	C	1314	209	592	
1300	31668	B	1315	1	684	
1301	31669	C	1316	1	339	
1302	31670	C	1317	71	310	
1303	31671	B	1318	1	476	
1304	31672	B	1319	133	198	
1305	31673	B	1320	1	227	
1306	31674	C	1321	612	977	
1307	31675	C	1322	65	523	
1308	31676	C	1323	35	121	
1309	31677	B	1324	8	430	
1310	31678	C	1325	1	438	
1311	31679	B	1326	1935	3296	
1312	31680	B	1332	254	462	
1313	31681	B	1333	1006	1540	
1314	31682	B	1335	127	1799	
1315	31683	B	1336	221	402	
1316	31684	C	1337	1	567	
1317	31685	C	1338	193	342	
1318	31686	B	1339	652	775	
1319	31687	B	1340	1	552	
1320	31688	B	1341	83	318	
1321	31689	B	1342	166	352	
1322	31690	C	1343	1	228	
1323	31691	B	1344	25	244	
1324	31692	C	1345	58	285	
1325	31693	B	1346	34	822	
1326	31694	B	1347	1	1563	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1327	31695	B	1348	229	1185	
1328	31696	B	1349	59	819	
1329	31697	B	1350	1	5955	
1330	31698	B	1351	1	654	
1331	31699	B	1352	1	1299	
1332	31700	B	1353	943	1872	
1333	31701	B	1354	1	942	
1334	31702	B	1355	444	560	
1335	31703	B	1356	1	1605	
1336	31704	B	1357	1	831	
1337	31705	C	1358	48	383	
1338	31706	C	1359	1	318	
1339	31707	B	1360	186	470	
1340	31708	C	1361	1	321	
1341	31709	B	1362	1	720	
1342	31710	B	1363	1	939	
1343	31711	B	1364	1	576	
1344	31712	B	1365	1	114	
1345	31713	B	1366	129	588	
1346	31714	B	1367	24	724	
1347	31715	B	1368	1	1840	
1348	31716	B	1369	14	350	
1349	31717	B	1370	1	3187	
1350	31718	C	1371	1	261	
1351	31719	B	1372	117	890	
1352	31720	B	1373	1	438	
1353	31721	B	1374	1	217	
1354	31722	B	1375	1	160	
1355	31723	C	1376	6	191	
1356	31724	B	1377	1	759	
1357	31725	B	1378	10	251	
1358	31726	B	1379	1	719	
1359	31727	C	1380	425	886	
1360	31728	C	1381	1	216	
1361	31729	C	1382	38	229	
1362	31730	B	1383	38	672	
1363	31731	B	1384	1	1845	
1364	31732	B	1385	1	2590	
1365	31733	B	1386	32	108	
1366	31734	C	1387	215	460	
1367	31735	B	1388	1	1008	
1368	31736	B	1389	1	368	
1369	31737	B	1390	44	2402	
1370	31738	B	1391	80	1617	
1371	31739	C	1392	199	531	
1372	31740	B	1393	1	465	
1373	31741	C	1394	415	612	
1374	31742	B	1395	16	147	
1375	31743	B	1396	1	1314	
1376	31744	B	1397	1	465	
1377	31745	B	1398	1	1569	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1378	31746	B	1399	1	490	
1379	31747	B	1400	405	573	
1380	31748	B	1401	1	2106	
1381	31749	B	1402	1	1593	
1382	31750	B	1403	1	666	
1383	31751	B	1404	1	652	
1384	31752	B	1405	352	1239	
1385	31753	B	1406	1	3184	
1386	31754	B	1407	467	1433	
1387	31755	B	1408	95	428	
1388	31756	C	1409	164	208	
1389	31757	C	1410	118	511	
1390	31758	C	1411	339	431	
1391	31759	B	1412	1	396	
1392	31760	B	1413	1	663	
1393	31761	B	1414	1	864	
1394	31762	C	1415	1	471	
1395	31763	B	1416	1	642	
1396	31764	B	1417	594	1764	
1397	31765	B	1418	1	771	
1398	31766	B	1419	1	5131	
1399	31767	B	1420	60	617	
1400	31768	B	1421	587	1202	
1401	31769	C	1422	336	638	
1402	31770	C	1423	30	200	
1403	31771	B	1424	1	1363	
1404	31772	B	1425	1	1113	
1405	31773	B	1426	1	1101	
1406	31774	B	1427	575	805	
1407	31775	C	1428	1	149	
1408	31776	C	1429	1	294	
1409	31777	C	1430	228	469	
1410	31778	B	1431	182	518	
1411	31779	B	1432	239	448	
1412	31780	B	1433	1	434	
1413	31781	C	1434	24	290	
1414	31782	C	1435	334	459	
1415	31783	B	1436	69	320	
1416	31784	B	1437	1	426	
1417	31785	B	1438	605	1423	
1418	31786	C	1439	9	113	
1419	31787	B	1440	1	58	
1420	31788	B	1441	1	210	
1421	31789	B	1442	1	2985	
1422	31790	C	1443	152	292	
1423	31791	B	1444	57	849	
1424	31792	C	1445	41	142	
1425	31793	C	1446	38	341	
1426	31794	C	1447	220	450	
1427	31795	C	1448	154	469	
1428	31796	B	1449	139	1023	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1429	31797	B	1450	55	2370	
1430	31798	B	1451	1	1707	
1431	31799	B	1452	566	2356	
1432	31800	B	1453	72	255	
1433	31801	B	1454	51	182	
1434	31802	B	1455	466	600	
1435	31803	B	1456	481	1209	
1436	31804	B	1457	1	1638	
1437	31805	B	1458	8	874	
1438	31806	B	1459	1	552	
1439	31807	B	1460	1	2566	
1440	31808	B	1461	85	270	
1441	31809	B	1462	159	392	
1442	31810	B	1463	88	459	
1443	31811	B	1464	131	406	
1444	31812	B	1465	69	194	
1445	31813	B	1466	59	3134	
1446	31814	B	1467	1	3097	
1447	31815	B	1468	328	519	
1448	31816	C	1469	40	436	
1449	31817	B	1470	1	981	
1450	31818	B	1471	30	285	
1451	31819	B	1475	93	932	
1452	31820	B	1476	1	369	
1453	31821	C	1477	102	227	
1454	31822	B	1478	613	679	
1455	31823	B	1479	51	587	
1456	31824	C	1480	3	188	
1457	31825	B	1481	1	1434	
1458	31826	C	1482	27	173	
1459	31827	C	1483	294	503	
1460	31828	C	1484	506	718	
1461	31829	C	1485	97	504	
1462	31830	C	1486	27	185	
1463	31831	B	1487	50	3247	
1464	31832	B	1488	1	1032	
1465	31833	B	1489	8	95	
1466	31834	B	1490	17	303	
1467	31835	B	1491	34	81	
1468	31836	B	1492	1	1110	
1469	31837	B	1493	1	928	
1470	31838	C	1494	498	704	
1471	31839	B	1495	4	747	
1472	31840	B	1496	1	933	
1473	31841	B	1497	137	687	
1474	31842	B	1498	1524	1676	
1475	31843	B	1499	1	156	
1476	31844	B	1500	1	1126	
1477	31845	B	1501	122	765	
1478	31846	B	1503	95	304	
1479	31847	B	1504	1	156	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1480	31848	C	1505	12	173	
1481	31849	B	1506	10	252	
1482	31850	B	1507	25	301	
1483	31851	B	1508	34	267	
1484	31852	B	1509	10	366	
1485	31853	B	1510	536	2776	
1486	31854	B	1511	1	276	
1487	31855	B	1512	1	420	
1488	31856	B	1513	235	363	
1489	31857	B	1514	664	741	
1490	31858	C	1515	312	452	
1491	31859	B	1516	1	504	
1492	31860	B	1517	52	346	
1493	31861	B	1518	458	1283	
1494	31862	B	1519	324	473	
1495	31863	B	1520	137	286	
1496	31864	B	1521	1	2682	
1497	31865	B	1522	352	1132	
1498	31866	B	1523	245	397	
1499	31867	C	1524	371	661	
1500	31868	B	1525	69	325	
1501	31869	B	1526	38	997	
1502	31870	B	1527	1	1753	
1503	31871	B	1528	215	2588	
1504	31872	C	1529	38	124	
1505	31873	C	1530	33	317	
1506	31874	C	1531	224	379	
1507	31875	B	1532	1	480	
1508	31876	C	1533	145	256	
1509	31877	C	1534	64	198	
1510	31878	B	1535	1	394	
1511	31879	C	1536	1	696	
1512	31880	B	1537	67	246	
1513	31881	C	1538	95	253	
1514	31882	B	1539	145	476	
1515	31883	C	1540	1	361	
1516	31884	C	1541	1	276	
1517	31885	B	1542	1	658	
1518	31886	B	1543	1	623	
1519	31887	C	1544	187	465	
1520	31888	C	1545	1	207	
1521	31889	C	1546	24	512	
1522	31890	C	1547	20	121	
1523	31891	B	1548	1	785	
1524	31892	B	1549	1	498	
1525	31893	C	1550	17	118	
1526	31894	C	1551	1	291	
1527	31895	B	1552	1	504	
1528	31896	B	1553	62	413	
1529	31897	B	1554	1	282	
1530	31898	C	1555	236	408	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1531	31899	C	1556	220	398	
1532	31900	C	1557	1	732	
1533	31901	C	1558	1	372	
1534	31902	B	1559	1	1086	
1535	31903	C	1560	286	642	
1536	31904	B	1561	8	339	
1537	31905	B	1562	16	88	
1538	31906	C	1563	227	405	
1539	31907	B	1564	253	693	
1540	31908	C	1565	1	129	
1541	31909	B	1566	1	390	
1542	31910	B	1567	1	1377	
1543	31911	C	1568	16	264	
1544	31912	C	1569	51	269	
1545	31913	C	1570	39	266	
1546	31914	B	1571	200	260	
1547	31915	B	1572	220	372	
1548	31916	B	1573	1	377	
1549	31917	C	1574	280	441	
1550	31918	C	1575	50	131	
1551	31919	C	1576	47	265	
1552	31920	C	1577	10	291	
1553	31921	B	1578	1	522	
1554	31922	B	1579	756	1166	
1555	31923	B	1580	382	1228	
1556	31924	B	1581	63	229	
1557	31925	B	1582	1	452	
1558	31926	C	1583	299	556	
1559	31927	B	1584	1	870	
1560	31928	B	1585	1	708	
1561	31929	C	1586	1	420	
1562	31930	B	1587	1	1011	
1563	31931	C	1588	84	176	
1564	31932	C	1589	52	201	
1565	31933	C	1590	55	154	
1566	31934	C	1591	1	390	
1567	31935	C	1592	15	317	
1568	31936	B	1593	1	501	
1569	31937	B	1594	306	398	
1570	31938	B	1595	204	402	
1571	31939	C	1596	30	155	
1572	31940	B	1597	1	2274	
1573	31941	B	1598	1	486	
1574	31942	C	1599	148	504	
1575	31943	C	1600	82	282	
1576	31944	C	1601	82	282	
1577	31945	B	1602	66	395	
1578	31946	B	1603	114	237	
1579	31947	B	1604	1	1326	
1580	31948	B	1605	1	1900	
1581	31949	B	1606	1	1548	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1582	31950	B	1607	1	1440	
1583	31951	B	1608	1	1878	
1584	31952	C	1609	402	563	
1585	31953	B	1610	1	2964	
1586	31954	B	1611	1	1284	
1587	31955	C	1612	144	449	
1588	31956	B	1613	1	1050	
1589	31957	B	1614	1	561	
1590	31958	B	1615	127	330	
1591	31959	C	1616	202	443	
1592	31960	B	1617	1	924	
1593	31961	C	1618	60	419	
1594	31962	C	1619	285	602	
1595	31963	C	1620	1	93	
1596	31964	B	1621	1	480	
1597	31965	B	1622	96	416	
1598	31966	B	1623	78	1581	
1599	31967	B	1624	1	2259	
1600	31968	C	1625	180	371	
1601	31969	B	1626	1	852	
1602	31970	B	1627	1	204	
1603	31971	B	1628	37	2613	
1604	31972	B	1629	66	1505	
1605	31973	B	1630	1	1792	
1606	31974	B	1631	100	522	
1607	31975	B	1632	252	2347	
1608	31976	C	1633	294	450	
1609	31977	C	1634	118	372	
1610	31978	B	1635	1	799	
1611	31979	B	1636	1	2496	
1612	31980	B	1637	100	1188	
1613	31981	B	1638	35	1654	
1614	31982	B	1639	46	783	
1615	31983	B	1640	8	1428	
1616	31984	B	1641	1	2121	
1617	31985	B	1642	92	667	
1618	31986	B	1643	1	339	
1619	31987	C	1644	79	434	
1620	31988	C	1645	592	921	
1621	31989	C	1646	1	171	
1622	31990	C	1647	76	264	
1623	31991	B	1648	157	912	
1624	31992	B	1649	10	462	
1625	31993	C	1650	10	333	
1626	31994	C	1651	763	1001	
1627	31995	B	1652	202	701	
1628	31996	C	1653	215	572	
1629	31997	B	1654	261	399	
1630	31998	C	1655	623	749	
1631	31999	B	1656	198	1524	
1632	32000	B	1657	108	575	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1633	32001	B	1658	40	2173	
1634	32002	B	1659	1	479	
1635	32003	B	1660	1	1542	
1636	32004	B	1661	1	849	
1637	32005	B	1662	1	684	
1638	32006	B	1663	1	318	
1639	32007	B	1664	1	406	
1640	32008	B	1665	1	393	
1641	32009	B	1666	1	210	
1642	32010	B	1667	1	450	
1643	32011	B	1668	1	471	
1644	32012	B	1669	1	471	
1645	32013	B	1670	282	580	
1646	32014	B	1671	1	789	
1647	32015	B	1672	1	324	
1648	32016	B	1673	1	465	
1649	32017	B	1674	1	948	
1650	32018	C	1675	24	401	
1651	32019	B	1676	46	401	
1652	32020	B	1677	251	1041	
1653	32021	C	1678	1	177	
1654	32022	B	1679	1	189	
1655	32023	B	1680	65	769	
1656	32024	C	1681	1	564	
1657	32025	B	1682	65	769	
1658	32026	B	1683	1	1743	
1659	32027	B	1684	1	615	
1660	32028	B	1685	1	323	
1661	32029	B	1686	1	618	
1662	32030	B	1687	1	579	
1663	32031	C	1688	142	216	
1664	32032	C	1689	145	432	
1665	32033	B	1690	1	729	
1666	32034	C	1691	1	192	
1667	32035	C	1692	1	474	
1668	32036	B	1693	326	1662	
1669	32037	B	1694	50	1462	
1670	32038	C	1695	1	432	
1671	32039	B	1696	173	375	
1672	32040	B	1697	1	1917	
1673	32041	B	1698	57	365	
1674	32042	B	1699	78	1250	
1675	32043	B	1700	8	2210	
1676	32044	B	1701	1	474	
1677	32045	B	1702	47	879	
1678	32046	B	1703	1	465	
1679	32047	B	1704	65	473	
1680	32048	B	1705	89	1908	
1681	32049	C	1706	1	612	
1682	32050	C	1707	80	226	
1683	32051	B	1708	992	2023	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1684	32052	B	1709	1293	1497	
1685	32053	B	1710	29	1480	
1686	32054	C	1711	1664	2179	
1687	32055	B	1712	183	8544	
1688	32056	C	1713	60	472	
1689	32057	B	1714	202	735	
1690	32058	B	1715	532	661	
1691	32059	B	1716	1	453	
1692	32060	B	1717	24	320	
1693	32061	B	1718	59	583	
1694	32062	B	1719	1	369	
1695	32063	B	1720	51	204	
1696	32064	B	1721	318	849	
1697	32065	B	1722	1	597	
1698	32066	B	1723	1	325	
1699	32067	B	1724	1	675	
1700	32068	B	1725	1	631	
1701	32069	B	1726	1	1017	
1702	32070	B	1727	158	727	
1703	32071	B	1728	296	798	
1704	32072	B	1729	1	1128	
1705	32073	C	1730	237	356	
1706	32074	C	1731	393	519	
1707	32075	B	1732	1	6432	
1708	32076	B	1733	124	402	
1709	32077	B	1734	35	421	
1710	32078	C	1735	203	385	
1711	32079	B	1736	16	406	
1712	32080	B	1737	21	306	
1713	32081	B	1738	97	352	
1714	32082	B	1739	64	7164	
1715	32083	B	1740	553	1197	
1716	32084	B	1741	553	720	
1717	32085	B	1742	1	4029	
1718	32086	B	1743	63	422	
1719	32087	B	1744	342	451	
1720	32088	B	1745	1	1238	
1721	32089	B	1746	1	2393	
1722	32090	B	1747	1667	1833	
1723	32091	C	1748	33	287	
1724	32092	B	1749	1	469	
1725	32093	B	1750	75	166	
1726	32094	B	1751	120	756	
1727	32095	C	1752	1	1098	
1728	32096	B	1753	1	486	
1729	32097	C	1754	25	374	
1730	32098	C	1755	149	394	
1731	32099	B	1756	1	660	
1732	32100	B	1757	26	391	
1733	32101	B	1758	282	419	
1734	32102	B	1759	132	717	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1735	32103	B	1760	127	698	
1736	32104	B	1761	56	549	
1737	32105	B	1762	325	2681	
1738	32106	C	1763	465	893	
1739	32107	C	1764	123	764	
1740	32108	B	1765	206	402	
1741	32109	B	1766	393	900	
1742	32110	C	1767	1	360	
1743	32111	B	1768	285	482	
1744	32112	B	1769	1	405	
1745	32113	C	1770	304	399	
1746	32114	B	1771	1	273	
1747	32115	B	1772	67	1464	
1748	32116	B	1773	1	1122	
1749	32117	B	1774	1	1185	
1750	32118	B	1775	44	145	
1751	32119	B	1776	1	1050	
1752	32120	B	1777	250	762	
1753	32121	B	1778	1	390	
1754	32122	B	1779	172	867	
1755	32123	B	1780	327	637	
1756	32124	B	1781	1	1101	
1757	32125	C	1782	10	216	
1758	32126	B	1783	1	1449	
1759	32127	B	1784	1	402	
1760	32128	C	1785	134	418	
1761	32129	B	1786	1	417	
1762	32130	B	1787	1	384	
1763	32131	C	1788	1	738	
1764	32132	C	1789	68	280	
1765	32133	B	1790	101	327	
1766	32134	B	1791	1	1257	
1767	32135	C	1792	168	311	
1768	32136	B	1793	33	120	
1769	32137	C	1794	1	150	
1770	32138	C	1795	1	378	
1771	32139	C	1796	100	267	
1772	32140	C	1797	1	318	
1773	32141	C	1798	1	429	
1774	32142	C	1799	194	379	
1775	32143	B	1800	1	363	
1776	32144	B	1801	1	384	
1777	32145	B	1802	1	4462	
1778	32146	B	1803	235	425	
1779	32147	B	1804	8	1187	
1780	32148	B	1805	1	480	
1781	32149	B	1806	1	240	
1782	32150	B	1807	1	891	
1783	32151	C	1808	1	366	
1784	32152	B	1809	376	776	
1785	32153	B	1810	304	876	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1786	32154	B	1811	1	939	
1787	32155	B	1812	4	744	
1788	32156	B	1813	1	717	
1789	32157	C	1814	67	366	
1790	32158	B	1815	185	847	
1791	32159	C	1816	1	315	
1792	32160	B	1817	87	297	
1793	32161	B	1818	1	1190	
1794	32162	B	1819	1	848	
1795	32163	B	1820	934	1158	
1796	32164	C	1821	1	477	
1797	32165	C	1822	6	125	
1798	32166	B	1823	335	536	
1799	32167	B	1824	157	324	
1800	32168	C	1825	176	361	
1801	32169	C	1826	1	120	
1802	32170	C	1827	25	360	
1803	32171	C	1828	246	377	
1804	32172	C	1829	4782	5015	
1805	32173	B	1830	1105	3034	
1806	32174	B	1831	818	874	
1807	32175	C	1832	1	444	
1808	32176	B	1833	589	734	
1809	32177	B	1834	1	264	
1810	32178	B	1835	46	112	
1811	32179	B	1836	1	360	
1812	32180	B	1837	589	734	
1813	32181	B	1838	1	675	
1814	32182	B	1839	1	1194	
1815	32183	B	1840	121	880	
1816	32184	B	1841	35	853	
1817	32185	B	1842	1	426	
1818	32186	C	1843	1	252	
1819	32187	B	1844	1	323	
1820	32188	B	1845	1	789	
1821	32189	C	1846	337	1521	
1822	32190	C	1847	1	345	
1823	32191	B	1848	331	3385	
1824	32192	B	1849	1	1584	
1825	32193	B	1850	1	957	
1826	32194	B	1851	226	1794	
1827	32195	B	1852	52	594	
1828	32196	C	1853	1	615	
1829	32197	B	1854	1	318	
1830	32198	B	1855	297	450	
1831	32199	C	1856	87	404	
1832	32200	C	1857	1	171	
1833	32201	C	1858	1	171	
1834	32202	B	1859	34	831	
1835	32203	B	1860	1	1375	
1836	32204	B	1861	1	546	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1837	32205	C	1862	36	182	
1838	32206	B	1863	392	1043	
1839	32207	B	1864	1	1283	
1840	32208	C	1865	283	591	
1841	32209	C	1866	97	108	
1842	32210	C	1867	25	250	
1843	32211	C	1868	142	448	
1844	32212	C	1869	1	576	
1845	32213	C	1870	1	396	
1846	32214	B	1871	1	885	
1847	32215	C	1872	321	848	
1848	32216	B	1873	82	871	
1849	32217	C	1874	1	723	
1850	32218	C	1875	1	426	
1851	32219	C	1876	624	803	
1852	32220	B	1877	1	588	
1853	32221	B	1878	39	58	
1854	32222	B	1879	1	1011	
1855	32223	B	1880	1	654	
1856	32224	C	1881	1	498	
1857	32225	C	1882	1	249	
1858	32226	C	1883	507	785	
1859	32227	C	1885	310	404	
1860	32228	B	1886	448	618	
1861	32229	B	1887	1	388	
1862	32230	B	1888	106	414	
1863	32231	B	1889	82	4206	
1864	32232	B	1890	1	240	
1865	32233	B	1891	1	324	
1866	32234	C	1892	243	447	
1867	32235	C	1893	139	228	
1868	32236	C	1894	61	300	
1869	32237	C	1895	271	429	
1870	32238	B	1896	545	1054	
1871	32239	B	1897	609	706	
1872	32240	B	1898	1	2521	
1873	32241	C	1899	152	517	
1874	32242	B	1900	217	313	
1875	32243	C	1901	86	193	
1876	32244	C	1902	29	271	
1877	32245	B	1903	1	522	
1878	32246	C	1904	37	225	
1879	32247	C	1905	84	308	
1880	32248	B	1906	36	1569	
1881	32249	B	1907	1	522	
1882	32250	C	1908	1	510	
1883	32251	B	1909	1	936	
1884	32252	C	1910	1	162	
1885	32253	C	1911	155	427	
1886	32254	B	1912	1	1282	
1887	32255	B	1913	165	270	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1888	32256	B	1914	513	9470	
1889	32257	B	1915	35	871	
1890	32258	B	1916	1	690	
1891	32259	C	1917	86	271	
1892	32260	B	1918	1	690	
1893	32261	C	1919	14	301	
1894	32262	B	1920	1	936	
1895	32263	B	1921	1	1901	
1896	32264	B	1922	36	238	
1897	32265	B	1923	1	738	
1898	32266	C	1924	5	364	
1899	32267	C	1925	43	494	
1900	32268	C	1926	96	263	
1901	32269	B	1927	1	207	
1902	32270	B	1928	1	290	
1903	32271	B	1929	52	482	
1904	32272	B	1930	271	408	
1905	32273	B	1931	114	309	
1906	32274	C	1932	218	398	
1907	32275	B	1933	1	1011	
1908	32276	B	1934	1	702	
1909	32277	B	1935	1	1305	
1910	32278	C	1936	141	374	
1911	32279	B	1937	1	834	
1912	32280	B	1938	47	363	
1913	32281	B	1939	73	558	
1914	32282	B	1940	373	864	
1915	32283	B	1941	96	377	
1916	32284	B	1942	55	2711	
1917	32285	B	1945	833	1352	
1918	32286	B	1946	1	1101	
1919	32287	B	1947	865	1070	
1920	32288	C	1948	1	285	
1921	32289	B	1949	1	642	
1922	32290	B	1950	124	813	
1923	32291	B	1951	1	654	
1924	32292	B	1952	180	303	
1925	32293	C	1953	15	170	
1926	32294	B	1954	245	646	
1927	32295	B	1955	100	824	
1928	32296	C	1956	52	348	
1929	32297	B	1957	1	678	
1930	32298	B	1958	1	954	
1931	32299	B	1959	1	675	
1932	32300	C	1960	52	348	
1933	32301	B	1961	71	251	
1934	32302	B	1962	427	747	
1935	32303	B	1963	1	453	
1936	32304	B	1964	1	375	
1937	32305	B	1965	117	1109	
1938	32306	C	1966	47	133	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1939	32307	B	1967	79	1149	
1940	32308	B	1968	1	693	
1941	32309	B	1969	1	1179	
1942	32310	B	1970	1	639	
1943	32311	B	1971	502	1294	
1944	32312	C	1972	670	1185	
1945	32313	B	1973	1	1044	
1946	32314	B	1974	1	3645	
1947	32315	B	1975	1	2877	
1948	32316	B	1976	1	1579	
1949	32317	B	1977	1	750	
1950	32318	B	1978	1	438	
1951	32319	C	1979	122	307	
1952	32320	C	1980	71	271	
1953	32321	C	1981	151	363	
1954	32322	C	1982	122	307	
1955	32323	C	1983	55	282	
1956	32324	C	1984	89	385	
1957	32325	C	1985	48	275	
1958	32326	C	1986	246	557	
1959	32327	B	1987	394	2565	
1960	32328	B	1988	1	432	
1961	32329	B	1989	46	483	
1962	32330	B	1990	150	482	
1963	32331	B	1991	10	265	
1964	32332	C	1992	40	162	
1965	32333	B	1993	1	3639	
1966	32334	B	1994	83	179	
1967	32335	B	1995	39	1452	
1968	32336	B	1996	50	384	
1969	32337	B	1997	256	351	
1970	32338	B	1998	1	771	
1971	32339	B	1999	1	489	
1972	32340	B	2000	37	447	
1973	32341	B	2001	1	1272	
1974	32342	B	2002	1	2559	
1975	32343	C	2003	221	589	
1976	32344	C	2004	415	1033	
1977	32345	B	2007	318	694	
1978	32346	B	2008	31	819	
1979	32347	B	2009	1	276	
1980	32348	B	2010	1	369	
1981	32349	B	2011	85	628	
1982	32350	B	2012	19	178	
1983	32351	B	2013	217	393	
1984	32352	B	2014	1	779	
1985	32353	B	2015	107	650	
1986	32354	B	2016	313	527	
1987	32355	B	2017	32	258	
1988	32356	C	2018	51	345	
1989	32357	B	2019	1	393	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
1990	32358	B	2020	647	1362	
1991	32359	C	2021	16	378	
1992	32360	B	2022	32	349	
1993	32361	C	2023	256	425	
1994	32362	C	2024	134	382	
1995	32363	B	2025	138	171	
1996	32364	B	2026	1	1626	
1997	32365	B	2027	509	810	
1998	32366	C	2028	1	513	
1999	32367	C	2029	7	375	
2000	32368	C	2030	1	410	
2001	32369	B	2031	1	864	
2002	32370	B	2032	110	928	
2003	32371	B	2033	1	1026	
2004	32372	B	2034	1	1008	
2005	32373	B	2035	1	588	
2006	32374	B	2036	1	412	
2007	32375	B	2037	1	1851	
2008	32376	B	2038	309	663	
2009	32377	B	2039	1	525	
2010	32378	B	2040	1	2214	
2011	32379	B	2041	1	486	
2012	32380	B	2042	1	774	
2013	32381	B	2043	1	596	
2014	32382	B	2044	305	395	
2015	32383	C	2045	27	185	
2016	32384	B	2046	1	1071	
2017	32385	B	2047	1	1326	
2018	32386	B	2048	1	3761	
2019	32387	C	2049	55	189	
2020	32388	B	2050	1016	1683	
2021	32389	C	2051	942	1130	
2022	32390	B	2052	1	598	
2023	32391	B	2053	1	768	
2024	32392	B	2054	1	999	
2025	32393	C	2055	1	252	
2026	32394	B	2056	154	606	
2027	32395	B	2057	1	846	
2028	32396	C	2058	334	690	
2029	32397	B	2059	268	5712	
2030	32398	C	2060	117	662	
2031	32399	B	2061	1	3504	
2032	32400	B	2062	816	927	
2033	32401	B	2063	1	342	
2034	32402	B	2064	1	1443	
2035	32403	C	2065	53	102	
2036	32404	C	2066	271	528	
2037	32405	B	2067	1	843	
2038	32406	C	2068	187	408	
2039	32407	C	2069	174	320	
2040	32408	B	2070	31	534	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2041	32409	C	2071	183	329	
2042	32410	B	2072	3	389	
2043	32411	B	2073	78	974	
2044	32412	B	2074	467	692	
2045	32413	C	2075	605	965	
2046	32414	B	2076	1	555	
2047	32415	B	2077	1	390	
2048	32416	B	2078	1	2522	
2049	32417	B	2079	24	94	
2050	32418	B	2080	78	593	
2051	32419	B	2081	1	612	
2052	32420	B	2082	42	342	
2053	32421	B	2083	1	477	
2054	32422	B	2084	57	1640	
2055	32423	C	2085	110	307	
2056	32424	B	2086	1	591	
2057	32425	C	2087	14	355	
2058	32426	B	2088	47	998	
2059	32427	B	2089	1	498	
2060	32428	C	2090	357	560	
2061	32429	B	2091	1	522	
2062	32430	C	2092	231	659	
2063	32431	C	2093	36	167	
2064	32432	B	2094	394	2695	
2065	32433	B	2096	61	2215	
2066	32434	B	2097	204	572	
2067	32435	C	2098	476	652	
2068	32436	B	2099	1	190	
2069	32437	C	2100	1	259	
2070	32438	B	2101	1	2625	
2071	32439	B	2102	1403	2950	
2072	32440	B	2103	672	1955	
2073	32441	C	2104	1	351	
2074	32442	B	2105	1	567	
2075	32443	C	2106	176	304	
2076	32444	C	2107	27	308	
2077	32445	C	2108	68	307	
2078	32446	C	2109	322	567	
2079	32447	B	2110	1	1297	
2080	32448	B	2111	281	1488	
2081	32449	B	2112	12	2497	
2082	32450	C	2113	90	284	
2083	32451	B	2114	1	2466	
2084	32452	B	2115	1	603	
2085	32453	B	2116	1	954	
2086	32454	B	2117	205	441	
2087	32455	B	2118	68	2052	
2088	32456	B	2119	271	639	
2089	32457	B	2120	1	1356	
2090	32458	B	2121	247	1326	
2091	32459	B	2122	1	1041	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2092	32460	B	2123	1	1695	
2093	32461	B	2124	1	1767	
2094	32462	B	2125	1	2286	
2095	32463	B	2126	1	1167	
2096	32464	B	2127	1	2343	
2097	32465	B	2128	1	1056	
2098	32466	B	2129	1	1379	
2099	32467	B	2130	1	1839	
2100	32468	B	2131	1	5460	
2101	32469	B	2132	133	549	
2102	32470	B	2133	1	534	
2103	32471	B	2134	1	537	
2104	32472	B	2135	1	49	
2105	32473	C	2136	1	432	
2106	32474	B	2137	1	615	
2107	32475	B	2138	146	556	
2108	32476	B	2139	133	1434	
2109	32477	B	2140	1	357	
2110	32478	C	2141	1	429	
2111	32479	B	2142	1	411	
2112	32480	B	2143	1	459	
2113	32481	C	2144	224	550	
2114	32482	B	2145	1	1035	
2115	32483	B	2146	1	342	
2116	32484	C	2147	1	321	
2117	32485	C	2148	1	317	
2118	32486	B	2149	1	495	
2119	32487	B	2150	146	556	
2120	32488	C	2151	1	390	
2121	32489	C	2152	461	643	
2122	32490	C	2153	198	416	
2123	32491	C	2154	258	500	
2124	32492	B	2155	291	1034	
2125	32493	B	2156	1	834	
2126	32494	B	2157	1	7852	
2127	32495	B	2158	1	1320	
2128	32496	B	2159	1631	1756	
2129	32497	B	2160	500	8643	
2130	32498	C	2161	193	475	
2131	32499	B	2162	1	795	
2132	32500	B	2163	1	663	
2133	32501	C	2164	1	303	
2134	32502	B	2165	266	385	
2135	32503	B	2166	1	704	
2136	32504	B	2167	1	720	
2137	32505	B	2168	364	507	
2138	32506	B	2169	44	197	
2139	32507	C	2170	72	224	
2140	32508	C	2171	228	393	
2141	32509	C	2172	241	396	
2142	32510	C	2173	415	552	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2143	32511	B	2174	64	268	
2144	32512	C	2175	1	462	
2145	32513	C	2176	1	357	
2146	32514	B	2177	1	3213	
2147	32515	B	2178	119	682	
2148	32516	B	2179	1	405	
2149	32517	B	2180	297	769	
2150	32518	B	2181	1	1314	
2151	32519	C	2182	156	287	
2152	32520	B	2183	1	756	
2153	32521	B	2184	1	645	
2154	32522	B	2185	1	948	
2155	32523	B	2186	1	660	
2156	32524	B	2187	186	518	
2157	32525	B	2188	1	3570	
2158	32526	B	2189	1	3354	
2159	32527	B	2190	1	2232	
2160	32528	B	2191	1	1356	
2161	32529	B	2192	1	1103	
2162	32530	B	2193	1	1902	
2163	32531	B	2194	1	2232	
2164	32532	B	2195	1	2991	
2165	32533	B	2196	1	2136	
2166	32534	B	2197	1	1524	
2167	32535	B	2198	1	2106	
2168	32536	B	2199	1	1224	
2169	32537	B	2200	1	1935	
2170	32538	B	2201	1	1428	
2171	32539	B	2202	1	858	
2172	32540	B	2203	1	2162	
2173	32541	B	2204	1	1374	
2174	32542	B	2205	205	3666	
2175	32543	B	2206	59	4311	
2176	32544	B	2207	1	1311	
2177	32545	B	2208	1	2742	
2178	32546	B	2209	1	1878	
2179	32547	B	2210	1	1074	
2180	32548	B	2211	1	2217	
2181	32549	B	2212	1	1945	
2182	32550	B	2213	1	1941	
2183	32551	B	2214	1	1737	
2184	32552	B	2215	1	1422	
2185	32553	B	2216	22	9087	
2186	32554	B	2217	1	4954	
2187	32555	B	2218	1	1812	
2188	32556	B	2219	1	939	
2189	32557	B	2220	1	2895	
2190	32558	B	2221	1	6223	
2191	32559	B	2222	109	4966	
2192	32560	B	2223	3807	9479	
2193	32561	B	2224	1	4903	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2194	32562	B	2225	210	516	
2195	32563	C	2226	185	292	
2196	32564	B	2227	1	657	
2197	32565	B	2228	1	1011	
2198	32566	B	2229	1	1303	
2199	32567	C	2230	69	182	
2200	32568	B	2231	1	321	
2201	32569	B	2232	88	522	
2202	32570	B	2233	527	1207	
2203	32571	B	2234	118	375	
2204	32572	B	2235	8	148	
2205	32573	B	2236	609	1121	
2206	32574	B	2237	1	1500	
2207	32575	C	2238	121	330	
2208	32576	B	2239	1	591	
2209	32577	B	2240	125	471	
2210	32578	B	2241	64	909	
2211	32579	B	2242	13	579	
2212	32580	B	2243	249	531	
2213	32581	C	2244	107	928	
2214	32582	B	2245	213	322	
2215	32583	C	2246	373	441	
2216	32584	B	2247	54	2723	
2217	32585	B	2248	94	529	
2218	32586	B	2249	57	260	
2219	32587	B	2250	674	1972	
2220	32588	B	2251	1	1053	
2221	32589	C	2252	186	347	
2222	32590	B	2253	26	193	
2223	32591	B	2254	1	5442	
2224	32592	B	2255	428	3792	
2225	32593	B	2256	9	199	
2226	32594	B	2257	421	2932	
2227	32595	B	2258	305	547	
2228	32596	B	2259	1	891	
2229	32597	B	2260	1	641	
2230	32598	B	2261	108	542	
2231	32599	B	2262	105	440	
2232	32600	B	2263	553	729	
2233	32601	B	2264	1	645	
2234	32602	B	2265	291	452	
2235	32603	B	2266	143	348	
2236	32604	C	2267	310	426	
2237	32605	B	2268	1	1344	
2238	32606	B	2269	237	2834	
2239	32607	B	2270	1	2922	
2240	32608	B	2271	109	3499	
2241	32609	B	2272	1	1611	
2242	32610	B	2273	1	1575	
2243	32611	B	2274	1	1314	
2244	32612	B	2275	1	1209	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2245	32613	B	2276	1	2022	
2246	32614	B	2277	1	1938	
2247	32615	B	2279	1	1806	
2248	32616	B	2280	1	2361	
2249	32617	B	2281	1	2732	
2250	32618	B	2282	1	3703	
2251	32619	C	2283	1	507	
2252	32620	B	2284	118	316	
2253	32621	B	2285	1	272	
2254	32622	B	2286	37	388	
2255	32623	B	2287	1	660	
2256	32624	B	2288	431	633	
2257	32625	B	2289	1	1032	
2258	32626	B	2290	1	1227	
2259	32627	C	2291	27	296	
2260	32628	B	2292	58	370	
2261	32629	B	2293	1	1275	
2262	32630	B	2294	1	1299	
2263	32631	C	2295	227	613	
2264	32632	B	2296	1	297	
2265	32633	B	2297	126	206	
2266	32634	C	2298	1	387	
2267	32635	B	2299	19	279	
2268	32636	B	2300	1	612	
2269	32637	C	2301	81	191	
2270	32638	B	2302	120	308	
2271	32639	B	2303	1	2145	
2272	32640	C	2304	270	416	
2273	32641	B	2305	31	627	
2274	32642	B	2306	128	499	
2275	32643	B	2307	61	388	
2276	32644	B	2308	744	2094	
2277	32645	B	2309	241	669	
2278	32646	B	2310	1	285	
2279	32647	B	2311	137	307	
2280	32648	C	2312	168	362	
2281	32649	C	2313	8	394	
2282	32650	B	2314	1	489	
2283	32651	C	2315	1	204	
2284	32652	B	2316	1	2361	
2285	32653	B	2317	1	2265	
2286	32654	B	2318	1	2268	
2287	32655	B	2319	1	2337	
2288	32656	B	2320	1	2196	
2289	32657	B	2321	1	2298	
2290	32658	B	2322	1	2880	
2291	32659	B	2323	1	2562	
2292	32660	B	2324	1	2835	
2293	32661	B	2325	1	2172	
2294	32662	B	2326	675	2515	
2295	32663	B	2327	1	2709	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2296	32664	B	2328	1	2478	
2297	32665	B	2329	1	2748	
2298	32666	B	2330	877	4763	
2299	32667	B	2331	1	2590	
2300	32668	B	2332	1	597	
2301	32669	C	2333	279	412	
2302	32670	C	2334	507	878	
2303	32671	C	2335	1	147	
2304	32672	B	2336	52	573	
2305	32673	C	2337	211	446	
2306	32674	B	2338	1	1669	
2307	32675	B	2339	69	418	
2308	32676	B	2340	1	2778	
2309	32677	B	2341	1	1896	
2310	32678	B	2342	1	1836	
2311	32679	B	2343	1	2463	
2312	32680	B	2344	287	1785	
2313	32681	B	2345	1	2860	
2314	32682	B	2346	1	1281	
2315	32683	B	2347	1	1176	
2316	32684	B	2348	1	1431	
2317	32685	B	2349	1	2361	
2318	32686	B	2350	592	1815	
2319	32687	B	2351	1	2764	
2320	32688	C	2352	309	581	
2321	32689	B	2353	99	5619	
2322	32690	B	2354	133	3213	
2323	32691	B	2355	1	3193	
2324	32692	B	2356	1	3291	
2325	32693	B	2357	1	4019	
2326	32694	B	2358	167	4093	
2327	32695	B	2359	1	3534	
2328	32696	B	2360	1	3405	
2329	32697	B	2361	1	3555	
2330	32698	B	2362	1	3786	
2331	32699	B	2363	1	3414	
2332	32700	B	2364	1	5130	
2333	32701	B	2365	1	8244	
2334	32702	B	2366	1	7995	
2335	32703	B	2367	1	1980	
2336	32704	B	2368	1	4269	
2337	32705	B	2369	1	169	
2338	32706	B	2370	1	573	
2339	32707	B	2371	388	1101	
2340	32708	C	2372	1	354	
2341	32709	B	2373	134	1057	
2342	32710	B	2374	91	1464	
2343	32711	B	2375	117	767	
2344	32712	B	2376	1	486	
2345	32713	C	2377	1	726	
2346	32714	C	2378	31	447	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2347	32715	B	2379	1	402	
2348	32716	B	2380	22	427	
2349	32717	B	2381	351	560	
2350	32718	B	2382	1	1122	
2351	32719	B	2383	1	1035	
2352	32720	B	2384	1	309	
2353	32721	B	2385	80	673	
2354	32722	B	2386	160	659	
2355	32723	B	2387	1	858	
2356	32724	C	2388	228	365	
2357	32725	B	2389	1	531	
2358	32726	B	2390	218	670	
2359	32727	C	2391	182	484	
2360	32728	C	2392	1	738	
2361	32729	C	2393	27	316	
2362	32730	B	2394	291	498	
2363	32731	C	2395	230	409	
2364	32732	B	2396	228	1361	
2365	32733	C	2397	210	548	
2366	32734	B	2398	309	1202	
2367	32735	C	2399	100	406	
2368	32736	B	2400	440	2579	
2369	32737	C	2401	102	359	
2370	32738	B	2402	1	414	
2371	32739	B	2403	717	976	
2372	32740	B	2404	1	777	
2373	32741	B	2405	1	208	
2374	32742	B	2406	1	570	
2375	32743	B	2407	187	525	
2376	32744	B	2408	20	499	
2377	32745	B	2409	1	210	
2378	32746	B	2410	41	166	
2379	32747	B	2411	29	348	
2380	32748	B	2412	1	564	
2381	32749	C	2413	250	366	
2382	32750	B	2414	164	430	
2383	32751	C	2415	141	340	
2384	32752	B	2416	304	422	
2385	32753	B	2417	1	2031	
2386	32754	B	2418	1	1527	
2387	32755	B	2419	1	2892	
2388	32756	B	2420	218	4186	
2389	32757	B	2421	203	655	
2390	32758	C	2422	1	346	
2391	32759	B	2423	299	433	
2392	32760	B	2424	172	525	
2393	32761	B	2425	1	3270	
2394	32762	B	2426	202	481	
2395	32763	B	2427	148	3473	
2396	32764	C	2428	182	460	
2397	32765	B	2429	116	2953	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2398	32766	B	2430	153	332	
2399	32767	B	2431	267	2752	
2400	32768	B	2432	1	848	
2401	32769	C	2433	54	350	
2402	32770	B	2434	160	531	
2403	32771	B	2435	159	184	
2404	32772	B	2436	44	293	
2405	32773	C	2437	129	438	
2406	32774	C	2438	255	469	
2407	32775	B	2439	292	456	
2408	32776	B	2440	86	225	
2409	32777	B	2441	1	603	
2410	32778	B	2442	305	402	
2411	32779	C	2443	117	332	
2412	32780	B	2444	1	642	
2413	32781	B	2445	50	238	
2414	32782	B	2446	350	1331	
2415	32783	B	2447	1	867	
2416	32784	B	2448	1	498	
2417	32785	B	2449	40	849	
2418	32786	B	2450	187	404	
2419	32787	B	2451	1	921	
2420	32788	B	2452	439	517	
2421	32789	C	2453	143	682	
2422	32790	B	2454	87	401	
2423	32791	B	2455	44	277	
2424	32792	B	2456	1	639	
2425	32793	B	2457	1	816	
2426	32794	B	2458	100	454	
2427	32795	C	2459	717	923	
2428	32796	C	2460	1	412	
2429	32797	C	2461	80	394	
2430	32798	B	2462	278	323	
2431	32799	C	2463	9	239	
2432	32800	B	2464	1	537	
2433	32801	B	2465	1	798	
2434	32802	B	2466	1	861	
2435	32803	B	2467	611	979	
2436	32804	B	2468	56	166	
2437	32805	C	2469	40	495	
2438	32806	B	2470	1	216	
2439	32807	B	2471	273	385	
2440	32808	B	2472	77	489	
2441	32809	C	2473	480	791	
2442	32810	B	2474	110	1318	
2443	32811	B	2475	114	563	
2444	32812	B	2476	813	3193	
2445	32813	C	2477	198	650	
2446	32814	B	2478	1	234	
2447	32815	B	2479	7	174	
2448	32816	B	2480	1	1035	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2449	32817	B	2481	1	564	
2450	32818	B	2482	16	894	
2451	32819	B	2483	1	207	
2452	32820	B	2484	1	2742	
2453	32821	B	2485	1	1071	
2454	32822	B	2486	58	1228	
2455	32823	C	2487	51	179	
2456	32824	B	2488	1	1119	
2457	32825	C	2489	147	398	
2458	32826	C	2490	1	504	
2459	32827	C	2491	4	240	
2460	32828	B	2492	190	388	
2461	32829	B	2493	1	594	
2462	32830	C	2494	299	477	
2463	32831	B	2495	1	2328	
2464	32832	C	2496	1	924	
2465	32833	B	2497	1	2703	
2466	32834	B	2498	504	1392	
2467	32835	C	2499	649	1239	
2468	32836	B	2500	46	842	
2469	32837	B	2501	251	555	
2470	32838	B	2502	258	326	
2471	32839	B	2503	49	386	
2472	32840	C	2504	63	383	
2473	32841	B	2505	150	585	
2474	32842	B	2506	65	678	
2475	32843	C	2507	477	634	
2476	32844	B	2508	80	337	
2477	32845	B	2509	1	1233	
2478	32846	B	2510	1	2526	
2479	32847	B	2511	192	2617	
2480	32848	B	2512	1	921	
2481	32849	B	2513	1	1650	
2482	32850	B	2514	79	1587	
2483	32851	B	2515	1	657	
2484	32852	B	2516	1	1260	
2485	32853	B	2517	1	762	
2486	32854	C	2518	1	729	
2487	32855	B	2519	1	1299	
2488	32856	B	2520	1	882	
2489	32857	C	2521	1	369	
2490	32858	B	2522	52	573	
2491	32859	B	2523	1	570	
2492	32860	B	2524	1	2376	
2493	32861	B	2525	1	786	
2494	32862	B	2526	1	760	
2495	32863	B	2527	73	714	
2496	32864	B	2528	1	2976	
2497	32865	B	2529	1	1021	
2498	32866	B	2530	1	1386	
2499	32867	B	2531	352	1239	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2500	32868	B	2532	1	1740	
2501	32869	B	2533	1	915	
2502	32870	B	2534	392	1393	
2503	32871	B	2535	1	4868	
2504	32872	B	2536	1	2667	
2505	32873	B	2537	1	825	
2506	32874	B	2538	1	735	
2507	32875	B	2539	88	469	
2508	32876	C	2540	1	390	
2509	32877	C	2541	113	328	
2510	32878	B	2542	475	848	
2511	32879	B	2543	472	1482	
2512	32880	C	2544	42	593	
2513	32881	B	2545	470	998	
2514	32882	B	2546	83	339	
2515	32883	B	2547	1	501	
2516	32884	B	2548	1198	1432	
2517	32885	B	2549	1	486	
2518	32886	B	2550	454	1626	
2519	32887	C	2551	227	388	
2520	32888	B	2552	25	687	
2521	32889	B	2553	569	753	
2522	32890	C	2554	147	384	
2523	32891	B	2555	210	419	
2524	32892	B	2556	1	1185	
2525	32893	C	2557	93	257	
2526	32894	C	2558	41	375	
2527	32895	C	2559	155	579	
2528	32896	B	2560	1	375	
2529	32897	C	2561	37	351	
2530	32898	C	2562	39	518	
2531	32899	B	2563	310	493	
2532	32900	C	2564	83	373	
2533	32901	B	2565	120	843	
2534	32902	C	2566	327	468	
2535	32903	B	2567	1	732	
2536	32904	C	2568	243	434	
2537	32905	C	2569	117	347	
2538	32906	C	2570	1	363	
2539	32907	C	2571	1	219	
2540	32908	B	2572	82	390	
2541	32909	B	2573	1152	1737	
2542	32910	C	2574	294	524	
2543	32911	B	2575	1	345	
2544	32912	B	2576	106	1073	
2545	32913	B	2577	1	313	
2546	32914	C	2578	1	594	
2547	32915	C	2579	16	102	
2548	32916	C	2580	1	441	
2549	32917	B	2581	1	462	
2550	32918	B	2582	113	1257	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2551	32919	B	2583	1	402	
2552	32920	B	2584	489	570	
2553	32921	B	2585	218	356	
2554	32922	C	2586	225	345	
2555	32923	C	2587	472	621	
2556	32924	B	2588	1	984	
2557	32925	B	2589	1	1119	
2558	32926	B	2590	1	771	
2559	32927	B	2591	97	681	
2560	32928	B	2592	112	202	
2561	32929	C	2593	1	381	
2562	32930	C	2594	115	321	
2563	32931	C	2595	3	200	
2564	32932	B	2596	212	303	
2565	32933	C	2597	236	396	
2566	32934	B	2598	119	625	
2567	32935	C	2599	68	334	
2568	32936	C	2600	85	351	
2569	32937	B	2601	1	723	
2570	32938	C	2602	235	463	
2571	32939	B	2603	1	498	
2572	32940	C	2604	179	346	
2573	32941	B	2605	21	486	
2574	32942	B	2606	20	600	
2575	32943	B	2607	172	294	
2576	32944	B	2608	130	1200	
2577	32945	B	2609	61	243	
2578	32946	B	2610	1	753	
2579	32947	B	2611	1	2274	
2580	32948	B	2612	1	1848	
2581	32949	B	2613	1	1263	
2582	32950	B	2614	412	654	
2583	32951	C	2615	176	658	
2584	32952	B	2616	310	628	
2585	32953	B	2617	1	579	
2586	32954	C	2618	145	309	
2587	32955	B	2619	298	353	
2588	32956	B	2620	163	594	
2589	32957	B	2621	1	468	
2590	32958	B	2622	1	552	
2591	32959	B	2623	1	876	
2592	32960	B	2624	140	1333	
2593	32961	C	2625	1	222	
2594	32962	B	2626	1	645	
2595	32963	C	2627	49	339	
2596	32964	B	2628	1	1944	
2597	32965	C	2629	79	189	
2598	32966	C	2630	513	767	
2599	32967	B	2631	114	230	
2600	32968	B	2632	24	629	
2601	32969	B	2633	98	230	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2602	32970	B	2634	99	462	
2603	32971	B	2635	127	1498	
2604	32972	B	2636	22	105	
2605	32973	B	2637	1	1173	
2606	32974	B	2638	403	660	
2607	32975	B	2639	58	507	
2608	32976	C	2640	103	480	
2609	32977	B	2641	1	657	
2610	32978	B	2642	1	508	
2611	32979	B	2643	1	999	
2612	32980	C	2644	1	756	
2613	32981	C	2645	1	675	
2614	32982	B	2646	1	810	
2615	32983	B	2647	1	334	
2616	32984	B	2648	1	781	
2617	32985	B	2649	76	211	
2618	32986	B	2650	1	687	
2619	32987	B	2651	1	753	
2620	32988	B	2652	37	1038	
2621	32989	B	2653	1	456	
2622	32990	B	2654	1	168	
2623	32991	B	2655	1	786	
2624	32992	C	2656	571	1278	
2625	32993	C	2657	96	548	
2626	32994	C	2658	391	504	
2627	32995	B	2659	1	183	
2628	32996	C	2660	1	381	
2629	32997	B	2661	1	642	
2630	32998	B	2662	1	1164	
2631	32999	B	2663	1	471	
2632	33000	B	2664	1	972	
2633	33001	C	2665	75	182	
2634	33002	C	2666	125	226	
2635	33003	B	2667	1	462	
2636	33004	B	2668	1	422	
2637	33005	B	2669	81	616	
2638	33006	B	2670	197	713	
2639	33007	B	2671	1	882	
2640	33008	B	2672	1	507	
2641	33009	C	2673	176	274	
2642	33010	B	2674	250	446	
2643	33011	B	2675	19	118	
2644	33012	B	2676	21	120	
2645	33013	B	2677	373	389	
2646	33014	B	2678	1	1452	
2647	33015	B	2679	70	148	
2648	33016	C	2680	7	96	
2649	33017	C	2681	360	550	
2650	33018	B	2682	55	1618	
2651	33019	B	2683	1	309	
2652	33020	B	2684	100	528	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2653	33021	B	2685	1	1191	
2654	33022	B	2686	52	834	
2655	33023	B	2687	1	933	
2656	33024	C	2688	80	322	
2657	33025	B	2689	127	415	
2658	33026	B	2690	74	190	
2659	33027	B	2691	150	380	
2660	33028	B	2692	1	1098	
2661	33029	C	2693	185	502	
2662	33030	B	2694	1	180	
2663	33031	C	2695	257	498	
2664	33032	B	2696	88	409	
2665	33033	C	2697	720	902	
2666	33034	C	2698	201	437	
2667	33035	C	2699	16	189	
2668	33036	B	2701	1	2286	
2669	33037	B	2702	1	1026	
2670	33038	B	2703	777	1035	
2671	33039	B	2704	1	1200	
2672	33040	B	2705	332	462	
2673	33041	B	2706	351	480	
2674	33042	B	2707	10	327	
2675	33043	B	2708	108	1325	
2676	33044	B	2709	36	189	
2677	33045	B	2710	54	3192	
2678	33046	B	2711	1	3423	
2679	33047	C	2712	5	280	
2680	33048	C	2713	1	88	
2681	33049	C	2714	1	153	
2682	33050	B	2715	70	231	
2683	33051	B	2716	11	427	
2684	33052	B	2717	74	943	
2685	33053	C	2718	109	315	
2686	33054	B	2719	1	335	
2687	33055	B	2720	108	506	
2688	33056	C	2721	1	486	
2689	33057	C	2722	87	441	
2690	33058	C	2723	85	276	
2691	33059	C	2724	86	280	
2692	33060	C	2725	108	254	
2693	33061	B	2726	1	930	
2694	33062	B	2727	23	847	
2695	33063	B	2728	19	182	
2696	33064	C	2729	190	300	
2697	33065	B	2730	67	650	
2698	33066	B	2731	1	1149	
2699	33067	B	2732	1	263	
2700	33068	B	2733	73	676	
2701	33069	B	2734	1	414	
2702	33070	B	2735	4	256	
2703	33071	B	2736	29	493	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2704	33072	B	2737	1	1323	
2705	33073	B	2738	1	4209	
2706	33074	B	2739	538	728	
2707	33075	B	2740	344	1447	
2708	33076	C	2741	223	477	
2709	33077	B	2742	1	1091	
2710	33078	B	2743	1	2865	
2711	33079	B	2744	1	1203	
2712	33080	C	2745	120	401	
2713	33081	B	2746	1	688	
2714	33082	B	2747	1	549	
2715	33083	B	2748	196	1647	
2716	33084	B	2749	1	378	
2717	33085	C	2750	2	166	
2718	33086	B	2751	1	807	
2719	33087	C	2752	343	532	
2720	33088	B	2753	1	885	
2721	33089	C	2754	32	247	
2722	33090	B	2755	1	1152	
2723	33091	B	2756	1	885	
2724	33092	B	2757	87	359	
2725	33093	B	2758	71	418	
2726	33094	B	2759	117	1983	
2727	33095	B	2760	176	1045	
2728	33096	B	2761	25	187	
2729	33097	B	2762	1	315	
2730	33098	B	2763	1	351	
2731	33099	B	2764	1	396	
2732	33100	B	2765	12	350	
2733	33101	B	2766	1	411	
2734	33102	B	2767	1	1020	
2735	33103	B	2768	72	359	
2736	33104	B	2769	1	526	
2737	33105	B	2770	1	1233	
2738	33106	B	2771	1	1563	
2739	33107	B	2772	1	246	
2740	33108	B	2773	1	747	
2741	33109	B	2774	1	861	
2742	33110	C	2775	1	1278	
2743	33111	B	2776	1	630	
2744	33112	C	2777	22	147	
2745	33113	B	2778	242	744	
2746	33114	B	2779	54	178	
2747	33115	B	2780	1	2277	
2748	33116	B	2781	1	204	
2749	33117	B	2782	1	447	
2750	33118	B	2783	1	819	
2751	33119	B	2784	1	720	
2752	33120	B	2785	1	444	
2753	33121	B	2786	1	519	
2754	33122	B	2787	1	864	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2755	33123	B	2788	1	654	
2756	33124	B	2789	1	772	
2757	33125	B	2790	1	930	
2758	33126	B	2791	1	3594	
2759	33127	B	2792	1	654	
2760	33128	B	2793	1	444	
2761	33129	B	2794	403	1560	
2762	33130	B	2795	1412	1495	
2763	33131	B	2796	536	2770	
2764	33132	B	2797	417	1025	
2765	33133	B	2798	108	326	
2766	33134	B	2799	1	694	
2767	33135	B	2800	380	541	
2768	33136	B	2801	1	916	
2769	33137	B	2802	509	1643	
2770	33138	C	2803	40	180	
2771	33139	B	2804	1	345	
2772	33140	C	2805	170	361	
2773	33141	C	2806	1	312	
2774	33142	C	2807	307	450	
2775	33143	B	2808	1	993	
2776	33144	B	2809	1	321	
2777	33145	B	2810	1	321	
2778	33146	C	2811	604	779	
2779	33147	B	2812	52	646	
2780	33148	C	2813	7	177	
2781	33149	C	2814	118	294	
2782	33150	B	2815	337	1512	
2783	33151	B	2816	32	335	
2784	33152	B	2817	1	1026	
2785	33153	C	2818	1	1044	
2786	33154	B	2819	1	1575	
2787	33155	B	2820	1	1356	
2788	33156	B	2821	1	3726	
2789	33157	B	2822	158	627	
2790	33158	B	2823	814	3116	
2791	33159	B	2824	1	2667	
2792	33160	B	2825	1	2778	
2793	33161	B	2826	96	662	
2794	33162	C	2827	163	245	
2795	33163	B	2828	1	381	
2796	33164	B	2829	47	378	
2797	33165	B	2830	1	614	
2798	33166	B	2831	277	528	
2799	33167	B	2832	1	1059	
2800	33168	C	2833	354	491	
2801	33169	C	2834	161	466	
2802	33170	B	2835	78	2700	
2803	33171	C	2836	37	111	
2804	33172	B	2837	1	1929	
2805	33173	B	2838	36	612	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2806	33174	B	2839	189	498	
2807	33175	C	2840	302	430	
2808	33176	C	2841	58	219	
2809	33177	C	2842	56	275	
2810	33178	C	2843	21	293	
2811	33179	C	2844	337	543	
2812	33180	B	2845	1	507	
2813	33181	C	2846	232	489	
2814	33182	C	2847	314	476	
2815	33183	C	2848	572	937	
2816	33184	C	2849	259	528	
2817	33185	B	2850	1	597	
2818	33186	B	2851	1	564	
2819	33187	B	2852	368	732	
2820	33188	C	2853	58	375	
2821	33189	B	2854	608	1222	
2822	33190	C	2855	41	358	
2823	33191	C	2856	73	177	
2824	33192	B	2857	1	582	
2825	33193	C	2858	1	543	
2826	33194	B	2859	1	1538	
2827	33195	B	2860	40	704	
2828	33196	C	2861	303	407	
2829	33197	B	2862	131	336	
2830	33198	C	2863	64	156	
2831	33199	B	2864	180	712	
2832	33200	B	2865	1	1104	
2833	33201	B	2866	65	228	
2834	33202	B	2867	1	2172	
2835	33203	B	2868	1	1338	
2836	33204	C	2869	181	410	
2837	33205	B	2870	1	1137	
2838	33206	B	2871	69	1322	
2839	33207	C	2872	24	266	
2840	33208	B	2873	1033	1089	
2841	33209	B	2874	367	463	
2842	33210	B	2875	1	3256	
2843	33211	C	2876	278	466	
2844	33212	B	2877	323	4268	
2845	33213	B	2878	424	1711	
2846	33214	B	2879	567	643	
2847	33215	B	2880	1	258	
2848	33216	B	2881	1	806	
2849	33217	B	2882	56	984	
2850	33218	B	2883	1	807	
2851	33219	B	2884	1	396	
2852	33220	C	2885	107	411	
2853	33221	B	2886	1	678	
2854	33222	B	2887	1	246	
2855	33223	C	2888	41	316	
2856	33224	B	2889	1	300	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2857	33225	C	2890	1	273	
2858	33226	B	2891	78	169	
2859	33227	B	2892	1	882	
2860	33228	C	2893	1	246	
2861	33229	B	2894	1	639	
2862	33230	B	2895	1	411	
2863	33231	C	2896	427	522	
2864	33232	B	2897	158	826	
2865	33233	B	2898	275	310	
2866	33234	B	2899	429	933	
2867	33235	B	2900	1	560	
2868	33236	B	2901	1	798	
2869	33237	B	2902	45	384	
2870	33238	B	2903	845	983	
2871	33239	C	2904	171	422	
2872	33240	C	2905	139	360	
2873	33241	C	2906	188	436	
2874	33242	C	2907	76	303	
2875	33243	C	2908	362	574	
2876	33244	C	2909	42	347	
2877	33245	B	2910	1	766	
2878	33246	B	2911	170	1381	
2879	33247	B	2912	274	543	
2880	33248	B	2913	768	2001	
2881	33249	B	2914	140	279	
2882	33250	B	2915	1	2858	
2883	33251	B	2916	1	321	
2884	33252	B	2917	1	552	
2885	33253	B	2918	1	603	
2886	33254	C	2919	122	406	
2887	33255	B	2920	508	679	
2888	33256	B	2921	1	942	
2889	33257	B	2922	1	753	
2890	33258	B	2923	136	326	
2891	33259	B	2924	445	625	
2892	33260	B	2925	1	639	
2893	33261	B	2926	1	1850	
2894	33262	B	2927	76	1341	
2895	33263	C	2928	184	495	
2896	33264	B	2929	1	226	
2897	33265	B	2930	1	972	
2898	33266	B	2931	57	1493	
2899	33267	C	2932	207	404	
2900	33268	B	2933	664	1647	
2901	33269	B	2934	1	1305	
2902	33270	B	2935	1	639	
2903	33271	B	2936	59	1108	
2904	33272	B	2937	276	1311	
2905	33273	B	2938	1	708	
2906	33274	B	2939	123	309	
2907	33275	B	2940	1	957	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2908	33276	C	2941	199	357	
2909	33277	B	2942	319	355	
2910	33278	B	2943	574	1044	
2911	33279	B	2944	1	426	
2912	33280	C	2945	1	381	
2913	33281	C	2946	145	301	
2914	33282	B	2947	1	1644	
2915	33283	B	2948	1	906	
2916	33284	B	2949	249	317	
2917	33285	B	2950	388	655	
2918	33286	C	2951	228	379	
2919	33287	C	2952	200	343	
2920	33288	B	2953	1	600	
2921	33289	B	2954	123	719	
2922	33290	B	2955	1	879	
2923	33291	B	2956	88	445	
2924	33292	B	2957	518	1508	
2925	33293	C	2958	1	414	
2926	33294	C	2959	202	408	
2927	33295	B	2960	1	351	
2928	33296	B	2961	1	378	
2929	33297	C	2962	84	194	
2930	33298	B	2963	1	306	
2931	33299	B	2964	238	354	
2932	33300	C	2965	326	331	
2933	33301	B	2966	1	1005	
2934	33302	C	2967	31	408	
2935	33303	B	2968	48	335	
2936	33304	B	2969	1	241	
2937	33305	B	2970	1	768	
2938	33306	B	2971	93	728	
2939	33307	B	2972	25	88	
2940	33308	B	2973	1	414	
2941	33309	B	2974	1	555	
2942	33310	B	2976	83	3457	
2943	33311	B	2977	59	1280	
2944	33312	B	2978	1	414	
2945	33313	B	2979	1	354	
2946	33314	B	2980	1	477	
2947	33315	B	2981	1	357	
2948	33316	B	2982	182	394	
2949	33317	B	2983	148	1104	
2950	33318	B	2984	494	641	
2951	33319	C	2985	44	310	
2952	33320	C	2986	303	395	
2953	33321	C	2987	229	407	
2954	33322	B	2988	195	707	
2955	33323	B	2989	713	1063	
2956	33324	B	2990	67	746	
2957	33325	B	2991	468	1010	
2958	33326	C	2992	1	258	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
2959	33327	B	2993	1	282	
2960	33328	B	2994	139	767	
2961	33329	B	2995	1	133	
2962	33330	B	2996	136	291	
2963	33331	B	2997	172	634	
2964	33332	B	2998	1	435	
2965	33333	B	2999	503	1294	
2966	33334	B	3000	1	495	
2967	33335	B	3001	1	1416	
2968	33336	B	3002	1	321	
2969	33337	B	3003	1	378	
2970	33338	B	3004	1	337	
2971	33339	C	3005	1	474	
2972	33340	B	3006	1	633	
2973	33341	C	3007	142	423	
2974	33342	C	3008	226	360	
2975	33343	C	3009	45	281	
2976	33344	B	3010	1	369	
2977	33345	C	3011	2082	2558	
2978	33346	C	3012	99	356	
2979	33347	C	3013	312	467	
2980	33348	B	3014	89	463	
2981	33349	C	3015	16	357	
2982	33350	B	3016	239	541	
2983	33351	C	3017	176	345	
2984	33352	B	3018	1	2238	
2985	33353	C	3019	40	309	
2986	33354	B	3020	80	835	
2987	33355	B	3021	1	741	
2988	33356	B	3022	1	1005	
2989	33357	B	3023	185	3661	
2990	33358	B	3024	1	1539	
2991	33359	B	3025	1	1197	
2992	33360	C	3026	258	584	
2993	33361	B	3027	103	905	
2994	33362	B	3028	1	159	
2995	33363	B	3029	72	642	
2996	33364	C	3030	195	424	
2997	33365	C	3031	350	454	
2998	33366	B	3032	1	1494	
2999	33367	C	3033	1	336	
3000	33368	C	3034	169	423	
3001	33369	C	3035	131	307	
3002	33370	C	3036	80	423	
3003	33371	B	3037	1	663	
3004	33372	C	3039	619	1068	
3005	33373	B	3040	1	441	
3006	33374	B	3041	1	453	
3007	33375	C	3042	174	431	
3008	33376	B	3043	236	1145	
3009	33377	C	3044	99	215	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3010	33378	B	3045	1	675	
3011	33379	B	3046	1	479	
3012	33380	C	3047	18	272	
3013	33381	C	3048	800	1097	
3014	33382	C	3049	1	231	
3015	33383	C	3050	1	777	
3016	33384	B	3051	194	328	
3017	33385	B	3052	1	633	
3018	33386	C	3053	431	838	
3019	33387	B	3054	1	450	
3020	33388	B	3055	684	1367	
3021	33389	B	3056	112	423	
3022	33390	B	3057	28	420	
3023	33391	B	3058	28	280	
3024	33392	B	3059	1	1335	
3025	33393	B	3060	516	1396	
3026	33394	B	3061	1	1563	
3027	33395	B	3062	1	903	
3028	33396	B	3063	191	628	
3029	33397	B	3064	1	534	
3030	33398	B	3065	1	1134	
3031	33399	B	3066	1	1248	
3032	33400	B	3067	1	1479	
3033	33401	B	3068	1	1635	
3034	33402	B	3069	46	447	
3035	33403	C	3070	1	624	
3036	33404	C	3071	25	330	
3037	33405	C	3072	132	253	
3038	33406	B	3073	4	1011	
3039	33407	B	3074	392	814	
3040	33408	C	3075	414	557	
3041	33409	C	3076	74	328	
3042	33410	C	3077	1	678	
3043	33411	B	3078	1	5130	
3044	33412	B	3079	1	985	
3045	33413	B	3080	1	1671	
3046	33414	B	3081	146	556	
3047	33415	B	3082	1	732	
3048	33416	B	3083	136	753	
3049	33417	B	3084	1	1500	
3050	33418	B	3085	300	2678	
3051	33419	B	3086	1	1221	
3052	33420	B	3087	58	1287	
3053	33421	B	3088	1	933	
3054	33422	B	3089	1	1317	
3055	33423	B	3090	1	771	
3056	33424	B	3091	1	2241	
3057	33425	B	3092	1	642	
3058	33426	B	3093	1	2664	
3059	33427	C	3094	1	513	
3060	33428	C	3095	52	174	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3061	33429	C	3096	44	428	
3062	33430	C	3097	300	437	
3063	33431	C	3098	1	576	
3064	33432	B	3099	1	864	
3065	33433	C	3100	1	801	
3066	33434	C	3101	298	480	
3067	33435	B	3102	503	720	
3068	33436	C	3103	1	756	
3069	33437	B	3104	1	355	
3070	33438	C	3105	1	1143	
3071	33439	B	3106	1	2256	
3072	33440	C	3107	537	966	
3073	33441	B	3108	1	2009	
3074	33442	B	3109	1	3021	
3075	33443	B	3110	1	1085	
3076	33444	B	3111	180	2069	
3077	33445	B	3112	1	375	
3078	33446	B	3113	31	127	
3079	33447	B	3114	47	452	
3080	33448	C	3115	149	440	
3081	33449	B	3116	119	538	
3082	33450	B	3117	1	900	
3083	33451	C	3118	1	270	
3084	33452	B	3119	1	344	
3085	33453	C	3120	72	245	
3086	33454	B	3121	1	822	
3087	33455	C	3122	69	242	
3088	33456	B	3123	2129	2289	
3089	33457	C	3124	1	255	
3090	33458	B	3125	2129	2289	
3091	33459	B	3126	1	306	
3092	33460	C	3127	1	255	
3093	33461	B	3128	82	1254	
3094	33462	B	3129	1	468	
3095	33463	C	3130	2	250	
3096	33464	C	3131	166	357	
3097	33465	B	3132	423	3286	
3098	33466	B	3133	63	436	
3099	33467	B	3134	1	4578	
3100	33468	B	3135	1	4322	
3101	33469	B	3136	46	325	
3102	33470	B	3137	58	289	
3103	33471	B	3138	1	1695	
3104	33472	B	3139	89	1195	
3105	33473	C	3140	317	541	
3106	33474	B	3141	314	992	
3107	33475	C	3142	95	222	
3108	33476	C	3143	26	172	
3109	33477	C	3144	40	255	
3110	33478	C	3145	277	508	
3111	33479	B	3146	12	1358	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3112	33480	B	3147	602	780	
3113	33481	C	3148	1	306	
3114	33482	C	3149	1	771	
3115	33483	B	3150	149	360	
3116	33484	B	3151	1	567	
3117	33485	B	3152	1	345	
3118	33486	B	3153	1	1233	
3119	33487	B	3154	144	773	
3120	33488	C	3155	1	417	
3121	33489	B	3156	85	525	
3122	33490	C	3157	251	679	
3123	33491	B	3158	1	1185	
3124	33492	C	3159	541	729	
3125	33493	B	3160	211	382	
3126	33494	C	3161	200	409	
3127	33495	C	3162	85	423	
3128	33496	C	3163	243	455	
3129	33497	B	3164	152	437	
3130	33498	B	3165	1	816	
3131	33499	B	3166	79	294	
3132	33500	C	3167	6	353	
3133	33501	C	3168	82	405	
3134	33502	B	3169	3	191	
3135	33503	C	3170	204	413	
3136	33504	B	3171	75	1449	
3137	33505	B	3172	1	738	
3138	33506	B	3173	1	324	
3139	33507	C	3174	299	1009	
3140	33508	B	3175	1	447	
3141	33509	C	3176	1	570	
3142	33510	B	3177	1	703	
3143	33511	B	3178	142	744	
3144	33512	B	3179	1	237	
3145	33513	C	3180	63	254	
3146	33514	B	3181	185	330	
3147	33515	B	3184	214	1333	
3148	33516	B	3185	61	423	
3149	33517	B	3186	19	2467	
3150	33518	B	3187	4	1085	
3151	33519	B	3188	157	341	
3152	33520	B	3189	222	656	
3153	33521	B	3190	249	999	
3154	33522	B	3191	416	2447	
3155	33523	B	3192	187	1855	
3156	33524	C	3193	38	166	
3157	33525	B	3194	1	1449	
3158	33526	B	3195	286	663	
3159	33527	B	3196	255	556	
3160	33528	B	3197	85	591	
3161	33529	B	3198	32	404	
3162	33530	B	3199	185	253	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3163	33531	B	3200	202	2862	
3164	33532	B	3201	448	833	
3165	33533	B	3202	1	1275	
3166	33534	B	3203	1	591	
3167	33535	C	3204	1	291	
3168	33536	B	3205	1	744	
3169	33537	B	3206	338	523	
3170	33538	B	3207	1	435	
3171	33539	B	3208	1	477	
3172	33540	B	3209	1	2943	
3173	33541	B	3210	1	1719	
3174	33542	C	3211	113	280	
3175	33543	B	3212	1	1092	
3176	33544	B	3213	1	1470	
3177	33545	B	3214	1	426	
3178	33546	B	3215	1	747	
3179	33547	B	3216	321	2234	
3180	33548	B	3217	1	3057	
3181	33549	B	3218	1	537	
3182	33550	B	3219	1	2496	
3183	33551	B	3220	94	273	
3184	33552	B	3221	302	1432	
3185	33553	B	3222	35	1657	
3186	33554	B	3223	2	901	
3187	33555	B	3224	82	1479	
3188	33556	B	3225	224	411	
3189	33557	B	3226	328	429	
3190	33558	B	3227	27	1098	
3191	33559	B	3228	508	1765	
3192	33560	C	3229	1	321	
3193	33561	B	3230	251	415	
3194	33562	B	3231	695	1011	
3195	33563	B	3232	1	416	
3196	33564	B	3233	45	1340	
3197	33565	B	3234	65	2087	
3198	33566	B	3235	1	1149	
3199	33567	C	3236	1	108	
3200	33568	B	3237	1	384	
3201	33569	B	3238	80	383	
3202	33570	B	3239	200	409	
3203	33571	B	3240	14	419	
3204	33572	B	3241	1	888	
3205	33573	C	3242	165	435	
3206	33574	B	3243	452	593	
3207	33575	B	3244	1472	4415	
3208	33576	B	3245	103	207	
3209	33577	B	3246	242	292	
3210	33578	B	3247	1	306	
3211	33579	B	3248	1	684	
3212	33580	B	3249	1	838	
3213	33581	B	3250	215	2593	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3214	33582	C	3251	80	376	
3215	33583	B	3252	1	639	
3216	33584	C	3253	52	288	
3217	33585	B	3254	1	1197	
3218	33586	B	3255	39	2809	
3219	33587	B	3256	1	609	
3220	33588	C	3257	269	418	
3221	33589	B	3258	1	561	
3222	33590	B	3259	347	922	
3223	33591	B	3260	52	339	
3224	33592	B	3261	235	434	
3225	33593	B	3262	74	2676	
3226	33594	B	3263	90	675	
3227	33595	B	3264	1	1440	
3228	33596	B	3265	288	752	
3229	33597	B	3266	1	804	
3230	33598	C	3267	109	451	
3231	33599	B	3268	1	1122	
3232	33600	B	3269	1	768	
3233	33601	B	3270	380	2743	
3234	33602	B	3271	1	1296	
3235	33603	B	3272	322	591	
3236	33604	B	3273	174	464	
3237	33605	B	3274	1	384	
3238	33606	C	3275	320	385	
3239	33607	B	3276	53	485	
3240	33608	C	3277	175	205	
3241	33609	B	3278	216	316	
3242	33610	B	3279	1	921	
3243	33611	B	3280	22	453	
3244	33612	B	3281	168	817	
3245	33613	B	3282	1	477	
3246	33614	B	3283	190	1062	
3247	33615	B	3284	116	787	
3248	33616	B	3285	130	697	
3249	33617	B	3286	1	901	
3250	33618	B	3287	1	342	
3251	33619	B	3288	1	677	
3252	33620	B	3289	1	624	
3253	33621	B	3290	1	756	
3254	33622	B	3291	1	624	
3255	33623	B	3292	130	429	
3256	33624	B	3293	95	516	
3257	33625	B	3294	120	524	
3258	33626	B	3295	51	425	
3259	33627	B	3296	647	1015	
3260	33628	C	3297	518	841	
3261	33629	C	3298	67	294	
3262	33630	B	3299	1	1212	
3263	33631	C	3300	187	453	
3264	33632	B	3301	188	492	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3265	33633	B	3302	123	647	
3266	33634	C	3303	1	219	
3267	33635	B	3304	1	690	
3268	33636	B	3305	1	930	
3269	33637	B	3306	552	722	
3270	33638	B	3307	84	304	
3271	33639	B	3308	328	1104	
3272	33640	C	3309	300	593	
3273	33641	C	3310	1	87	
3274	33642	B	3311	1	819	
3275	33643	C	3312	122	334	
3276	33644	B	3313	1	318	
3277	33645	B	3314	764	977	
3278	33646	C	3315	379	471	
3279	33647	B	3316	1	1194	
3280	33648	B	3317	1	1800	
3281	33649	C	3318	273	506	
3282	33650	B	3319	1	1689	
3283	33651	C	3320	48	212	
3284	33652	C	3321	1	507	
3285	33653	C	3322	117	251	
3286	33654	B	3323	89	845	
3287	33655	C	3324	1	651	
3288	33656	C	3325	48	212	
3289	33657	C	3326	1	864	
3290	33658	B	3327	223	839	
3291	33659	C	3328	1	189	
3292	33660	B	3329	36	144	
3293	33661	B	3330	56	389	
3294	33662	B	3331	1	597	
3295	33663	B	3332	1	606	
3296	33664	C	3333	1	426	
3297	33665	B	3334	1	696	
3298	33666	B	3335	1	417	
3299	33667	C	3336	1	594	
3300	33668	B	3337	1	228	
3301	33669	C	3338	1	879	
3302	33670	B	3339	1	405	
3303	33671	C	3340	33	152	
3304	33672	B	3341	224	429	
3305	33673	B	3342	578	4588	
3306	33674	B	3343	1	288	
3307	33675	B	3344	77	1479	
3308	33676	B	3345	132	875	
3309	33677	C	3346	120	395	
3310	33678	B	3347	1	729	
3311	33679	C	3348	8	133	
3312	33680	C	3349	171	359	
3313	33681	B	3350	1	1098	
3314	33682	B	3351	1	1547	
3315	33683	B	3352	1	933	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3316	33684	B	3353	1	1989	
3317	33685	B	3354	1	595	
3318	33686	C	3355	62	559	
3319	33687	B	3356	1	153	
3320	33688	B	3357	1	768	
3321	33689	B	3358	1	969	
3322	33690	B	3359	217	358	
3323	33691	C	3360	449	961	
3324	33692	B	3361	1	1799	
3325	33693	B	3362	80	1327	
3326	33694	B	3363	111	258	
3327	33695	B	3364	112	429	
3328	33696	B	3365	147	390	
3329	33697	B	3366	1	585	
3330	33698	B	3367	1	2290	
3331	33699	B	3368	19	4071	
3332	33700	C	3369	1	183	
3333	33701	C	3370	1	183	
3334	33702	C	3371	44	283	
3335	33703	B	3372	1	954	
3336	33704	B	3373	1	384	
3337	33705	B	3374	709	773	
3338	33706	B	3375	1	3294	
3339	33707	B	3376	83	1229	
3340	33708	B	3377	1	1512	
3341	33709	C	3378	30	200	
3342	33710	A	3379	3	322	
3343	33711	A	3380	530	1489	YAGNESHPPSLPRYLRRSRHCG CRPPPLPVPTPTQACNAPQRRR TTSTSLACLGRAGLWLPSVSSP YLVLSQCQEPHHCCPPSTPRPS WSPLPGMPSA/SSPGQVPAQGD LSQEDSSDSPPAEQVLPPSSGSH NTLYLGCKRFSAFILNCEPPSKL LKARPQVSELSWNPDFVAS/SA ARPRDGPCSTGRQSASKTPPPPS HPHTGHSLWSEEK*KDSDSRPN QSAFPGCSVDLQFSHKLRPYLI HP/SESLGTVGNRPSQEGHELPP APFSRMGPEQHLPVVVLPFTGA FAVVLPCLVSSSAWHFKVKH PSIPLLRGEK

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3344	33712	A	3381	296	1255	YAGNESHPPSLPRYLRRSRHCG CRPPPLPVPTPTQACNAPQRRR TTSTSLACLGRAGLWLPVS SSP YLVLS SCQE QPHHCCPPSTPRPS WSPLPGMP SA/SSPGQVPAQGD LSQEDSSDSPPAEQVLPPSSGSH NTLYLRCKRFS AFILNCEPPSKL LKARPQVSELSWNPDFVAS/SA ARPRDGPCSTGRQSASKTPPPPS HPHTGHS LWSEEK*KDSDSRPN QSAFPGCSVDLQFS HKLRPYLI HP/SESLGT VGNRPSQEGHELPP APFSRMGPEQHL PVVVL PFTGA FAVVLPCPFLVSSSA WHFKVKH PSIPLL RGEK
3345	33713	A	3382	81	702	RAAFSPAPVSSLPAPVSSPPAS TSCPPAPVSSLP AHASSPPASTSS PPAPLSSAPAHTSSLPAPVSSPP ASTSSPLVAGSGGSTTRSLPPGL GALLTHSVAPYPGGQPPAAAD DP*TMAPAGWGS HNP RGCSCSP VAAGAGPFPASF*GPLR*AGSQ TFQILQVEVFLVVRHFSPSTP/PS VMLYPPPPSTPPTLRAPRPIPPS P
3346	33714	A	3383	3	231	PMLLEVSVADRDAV*TFWQAPI GESQQGALGFWSKALQSSADN NS/PFQITMQPELPIMNWVLSVP SSHKMGHAQQH
3347	33715	A	3384	3	355	KIPGTSTSVKFLGVQ*CGTCQDI PSKV KDKLLHLAPPTIKKEAQR LVGLFGFWSQH IPHLGELLRPIY RVTRKAASFEWGPEHEKALQQ VQAALQAALPLGPYDPADQPL CNLNCLS



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3348	33716	A	3385	2	1076	LCQRLLLAEPNEKPGSLGNVM AVARIEIGICEYYHEKTTEKALD SHGVLASTIKGVRSFQRNLEL KLPATERATANAIELLTVLDQA YENFAPQILPSTGSPTSQETAQF KANQNKPLVRGKGSPHEAIRYI SAAHREWKPAILTSAIRSFCS WLVFTSKNFPKLVTQHGSTIAG NGQSSDETQVQGAAWKSDSRG TKRQIPTWILAEGNNAQAQLDI PGPTIPAPNCSLKVPSWSTTPS MPSSLGKAYWLLACYWALVET E/RLAMGHQVTMKPELPVMN WVLSDPSSHKVGGAAQQHSINK WKWYIRNRARAGPEGTTPLT KALTWLKKYSNVLMLEFTG LTMFPDILKQLE
3349	33717	A	3386	1	1416	MAQYPILDFLKVGQLLGNAL GKGNDQTFRGLLDTGSELTLP GDPKHCDPPVKCAAIDLANA FFSIPVHKAHQKQFAFGWQQG QYTFTVLHQGCMNSLALCHNLI QRELDCLTPEDITLDHYIDDIM LIGSSEKEVANTLDLLFWDYRH EPLRLANYSPPERQLLACYWAL VETECLMMGHQVTMRPELPIM NWVLADPSRHKVGNAQQHWK CAVHT/IKWKWYIRDWAQAG LEGTS*LYWPRASRYQQGHQD LFILRSDLPSQVFIRDKLMERRN RRTGRTEKARIWEVTDRTVRT WIGEAVAAAAADGVTFSVPVT PHTFRHSYAMHMLYAGIPLKV LQSLMGHKSISSTEYTKVFAL DVAARHRVQFAMPESDAVAM
3350	33718	B	3387	50	693	
3351	33719	A	3388	153	578	ARIQ/GSRNQGVVEVAPLTVT PSDPLANVLLPVPATLPSAGLEI LVPEEGRLLPPGDTTMMPLNWN LRLPHGHFGLLLPLNQQAKKG VAVLGGVIALDCQDEISLLLYK GDLTMVEDKKEEQNHILHGS QREREPSKTGSP
3352	33720	A	3389	3	402	GRHAVGDIEADGGGVGRGPH GGVYGLQQSHPGGDPVWED GHPGLPGAQQRGQ*QQACAH HKSPSGAG*G*LPGP/AQS/AGN PDPKSPGPAPCLVGSSRNTPG AMGAPSRNGSPPTAGLVGDG TGSPSEAV
3353	33721	A	3390	141	320	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3354	33722	A	3391	1	464	HLKGLGNDTPRVCCLIG*T*LC DCH*LQVEASPTSVEVREPTSV NKD/SPKSLLYSCSYFDEPVE LRSSSFSSWDDSSDSYYETHLL HLKLV*PNLAVFNCRPTARRKP DYEPVENTDEAQKTFCKTAHN LWSLTFPPCLL*YETRARLER
3355	33723	A	3392	3	1189	
3356	33724	A	3393	1	867	PCRPT/LSEWI/QNTLGVNVEHK TTSKASLNPRDTPPSVVNEDFL HDLKETNISYSQEADDRVFRAH GHCLHEIFLLTEGMFERIPDIVL WPTCHDDVVKIVNLACKYNLC IIPIGGGTSVSYGLMCPADETRT IISLDTSQMNRLWVDENNLTA HV*AGITGKELERQLKESGYCT G\HEPRFPWSSSTVGGWVSTRA SGMKKNYGNIEDLEIVHFSDN DLSCIELDRLEIVLPSSGIPLLD GYSTIEHMPVHLETSTTMCIVTP IHSSMKLETLRMSMSINCRKDK
3357	33725	A	3394	1	890	MSKSESPKEPEQLRKLFIGGLSF ETTDSELRSHFEQWGTLTDCVV MRDPNTPKRSRGFGVITYATVE EVDAAMNARPHKVDGRVVEP KRAVSREDSQRPDYFEQYGKIE VIEIMTDRGSGKKRGFAFVTFD DHDSVDKTVIQKYHTVNGHNC EVRKALSKQEMASASSSQRGRS GSGNFGGGRGGGFGGNDNFGR GGNFSGRGGFGGSHGGGGYGG SGDGYNGFGNDGSNFGGGGSY NDFGNYNQSSNFGPMKGGNF GGRSSGPYGGGGQYFAKPRNQ/ GGYGGSSSSSYGSGRRF
3358	33726	A	3395	2	441	DGMEKVDTAMNARPHKVDGR FVEPKTAVSREDSQRPGAHDTV IKM/FKE/DTEEHKLRDYIEQYGV GGNFSGCAGFGGRSGGGR*GG SGNGYNRFDNDGSNFGGGGSY NDFGNYNDRSSNFGPIKGGNFG GRSSGPYGGGGQYFAKP*NQ
3359	33727	A	3396	3	404	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3360	33728	A	3397	2	762	MNARPHKVDGRVVEPKRAVSR EDSQRPGAHLTVKKIFVGGIKE DTEEHHLRDYFEQYGKIEVIEI MT\DRGSGRKRGFVFTFDDP\ DSVDKIVIQKYHTVNGHNCEV RKALSKQEEEMASASSISQRGRS GSG\NFGGGRGGGF\GGNDNFG RGGNFSGRGGFGGSRGGGGYG GSGDGYNGFGNDGSGNFGGGGS YNDFGNYNNQSSNFGPMKGGN F\GGRSSGPYQ\GGGQYFAKPR\ NQGGYGGSSSSSY\GSGRRF
3361	33729	A	3398	1	3737	
3362	33730	A	3399	5	633	DLREWSWARRTAWEPGRKRV RGK*AFKEIQCP*QKKE/SMSGL LLLKVVAKEMTWLPLSAIQAP GKVEPTKFPFPNKLMFSSWWYIE TTTASAKVIGYKPSVLNCATLR VQIMSHYHSYRHLASLLVEGSA TLPGHSHILGPLIRHPDKVSAGK PRVLGLQLLKEDCSSQPAAKPQ GPHRLCSSLILHRARARLGPEQ RETKVPFSKGTTH
3363	33731	A	3400	2	816	QVPTMVDWAGWSPGLWTTCS GTGGGGAEQGWANWSLVLP VLAGTSLETFSPLS*GLTFSSLLL MQISAASLNFSSENGIFSTTLP GCKFSKFLCSASLLKWNFSSST QVTS*MLCCSEISSTRYPKSSL* SSKFHKSLEQQQNAASLFAKT* QESPLLQLPTSSSPSETTSAWIS LSISLSVFLSKLFDKSLESSKLS\ TFSSVLLSPPNCSNLCLLPSEK VACTFLGTFLRSTSLHWYQFTVL VCFHPADKDILKSEKKRCKEK
3364	33732	A	3401	1	485	LFKAVLHDPHLKLLSLYGTSL HTDVSHLCETLKHTTCKIEELM LGTCDISDEGCEDIASVLACNS KLIHLSLVENPEKDKRM\CCCA LETLMMLMYCCLICVSCEDISHV LFCSKSLSLDLGSGNFLEDNEV\ HLLCEALKH*DACKTWRSNLF DWVGYLGC
3365	33733	C	3402	952	1164	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3366	33734	A	3403	3	163	IAVSKQDPITSLEQEKEPWNMK ICEMVDESPAMCSSFTRDLWPE QDIKDSFQQVILRRHGKCEHEN LQLRKGSASVDEYKVHKEGYN ELNQCLTTTQSKIFPCDKYVKV FHKFLNANRHKTRHTGKKPFK CKKCGKSFCMLLHLSQHKRIHI RENSYQCEECGKAFKWFSTLTR HKRIHTGEKPFKCEECGKAFKQ SSTLTTHKIIHTGEKPYRCEECG KAFNRSSHLTTHKIIHTGEKPYK CEECGKAFNQSSSTLSTHKFIHA GEKPYKCEECDKAFNRFSYLT HKIIHAGEKPYNCEECGKGFN WSSTLTCHKRIHTGEKPYKCEV CGKAFNESSNLTHKMIHTGEK PYKCEECGKAFNRSPQLTAHKII HTGEKPYKCEECGKAFSQSSIL TTHKRIHTGEKPYKCEECGKAF NRSSNLTKHKIIHTGEKSYKCEE CGKAFNQSSSTLTKHRKIHTRQK PYNCEECDNTFNQSSNL/N*/HK IIHTGEKLYKCQECGKASKQSF TLTKH*ILFNK
3367	33735	A	3404	3	345	
3368	33736	B	3405	282	694	
3369	33737	A	3406	586	1403	VSETALADGRCWFRKCQSHLC LASTTGKC*TSTLQSGRDYTEN GESAQEGETGLPERRLAHCT*L AEVHRRQPD*TQENRP/SKMGI MTSS/AAKDHLDNKCQRQDSIP GSSRGPSPLTMGAQDTLPVAAA FTETVNA YFKGADPSNTPSVLV EQLLSKRRSNPIMDHGGHKVPC SLPPLLTHPNRRQRELKMYGSH KAVAQPSPLQDRLQQCAVPTP VTGWTNSRAALGDIFSTWGSLL LRTSTPKKAAARARPMCPCPGA YNTSYPLAPYFWR
3370	33738	A	3407	1	421	FRHSMNGCEKDSSTDSANEKP ALIPREKKISILEPSKALRGVT GPNIEKSVKDLQRCTVSLTRYR VMIKEEVDSSVKKIKAFAELH TCIIDKEVSLMAEMDKVKEEA MEILTARQIRKAEALKRLTDLA SIQMAEMQL
3371	33739	A	3408	1	403	MEILTARQKKAELKRLTDLAS QMAEMQLAELRAEIK/*WFS ENELGNSDLCSSYCYCLAAQKLSC QCYLGGAHSAAPGIAKRKTSQL I*PLP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3372	33740	A	3409	1	756	
3373	33741	A	3410	2	1849	QRRRRNTPGWSGFQGLTRAPA LFPRLIFQSSSETRLLSGTLLWIP RAYSTRSKMAELNTHVNVKEK IYAVRSVVPNKSNNIVLVLQQ FDFNVDAVQAFVDGSAIQVL KEWNMTGKKKNNKRKRSKSK QHQQNKDAKDKVERPEAGPLQ PQPPQIQNGPMNGCEKDSSSTD SANEKPALIPREKKISILEEPSKA LRGVTEGNRLQLQKLSLDGNP KPIHGTTERS DGLQWSAEQPCN PSKPKAKTSPVKSNTPAAHLEI KPDELAKKRGPNIKSVKDLQR CTVSLTRYRVMKEEVDSSVKK IKAAFAELHNCIIDKEVSLMAE MDKVKEEAMEILTARQKKAEE LKRLTNLASQMAEMQLAELR\ AEIKHFVSEKRYDEELGKVAAR FSCDIEQLKAQIMLCGEITHPK\ NNYSSRTPLQAPCWPLLNA\HA ANLWGKQSNFSRKSSTHNKPS EGKAATPKMVSSLPSTADPSLR AMPANKQNGSSNQRRRFNPQY HNNRLNGPAKSQSGSNEAEPL GKGNSRHEHRRQPHNGFRPKN KGGAKNQEASLGMKTPEAPAH SEKPRRRQHAADTSEARPFGRS VGRVSCNLCPTRIEVSTDAAV LSVPAVTLVA
3374	33742	A	3411	1	489	MAEVQVPVLHGRGHLLGRLLAA IVAKQVMLGWKVVVVRCEGIN ISGNFYRNKLNCSFRTPSCIFRW TVRGMLPHKTKRGQAVLDHLQ VFDGISPLYDK/K/KRMVVPAA KVVR LKPTRKFAYLGRLAHEV GWKYQAVTATLEKRKEKA*IH YRKKKQLMRLRKQA
3375	33743	A	3412	2	260	
3376	33744	A	3413	1	612	AEVQVLVLDGRGHFLCRLADI VAKQVLLGRKVVVVRCEGINI SGNFYRNKLKYLAFLRKRMT NPSRGP\YHFRAPSRIFWRTVRG MLPHKTKRGQAALDRLKVFDG IPPPYDKKKRMVVPAA LKVVR LKPTRKFAYLGRLAHEVGWKY QAVTATLEEKREKAKIHYRK KKQLMRLRKQAEKNVEKKIDK YTEVLKTHGLLV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3377	33745	A	3414	734	1488	MTKDPWLKQSGSSDTSPAASP GHFRAVPRAPRARGTVVHHRH/ LCLSSWPSSS/RVPPGCASYTPA STAAGALPYQAQRRQGVLRRY TTYLRV*HFLPRGLPEGFQRGP RVPPPPPCPMAAEPELGHALKL LDLREIVSFLYFFFFFLRRSLT LSPGWRDLGSLQPLPHGFKAI /SCFSLLSGWDYRHTATHAQLI FVFLVEMGF/TPMFARMASIS*P CDPPDSASQDAGITGVSHQVW RERLFLDEGGGGCP
3378	33746	A	3415	48	966	WSQVVTIVTVVTVSGSNHGN HTQASHEGYRHPMRAQVSH/G ECR/PSHEGHRHPMRTQASHEG HRRPMTQASHEGHRHPMRTQ ASHEGHRHPMRGTGVP*EHRH PMRAQASH/GEHRR/HH/GEHSC PMRAQASHEGTGVP*EHRC/HH ENTGVP*GHRCPMRMQASHAG HRHPMRVQASHEGHRCPMRTQ VSHEGHRPMPRVQASHENTGV P*GAQASHEGTGVP*EHSHPMR AQASHENTDVP*GVQASHEGY RRPMTQASHEGHRCPMRAQT SHENTGVP*AAQYRP*EAGAPQ GGQGWQETGADRST
3379	33747	A	3416	8	432	NSKLPPVVTSSQMRFMY/DPQT DQHMKINFPEQLPLDEFLQKTDP KDPANYILHAVLVHSGDNHGG HYVVYLNPKGDGKWCKFDDD VVSRICTKEEAIEHNYGGHDDD LSVRHCTNAYMLVYIRESKLSE VLQAVTDHDIPQQL
3380	33748	A	3417	38	2865	SFRWDSKKHTGYVGLKNQGAT CYMNSLLQTLFFTNQLRKLL MGALPWEALAPWV*ALDTP SLPCSTCLTTARTCTSLQQCHA DQCRWQTRWQGSSRW*WQQE EIGQEREVEYAKRVLLGPPY SISDCTHMESSLPPCSS*DPGSF QFHEERADEKSEGRGPSCST QPPPW*SLGEGLGECR*ESSSY CSLAGLSLHP*ETRGERLQEAS QQQPESPFGEV*HPALVSLDLA E*QGAEKHGCTETH

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3381	33749	A	3418	2	3515	YVRVSLPPPPPAAGRPGA AVAD DAREEEEEAAPPPPPPPRLAA ARPPGSQPRPPAAGEAQAAD MNHQQQQQQKAGEQQLSEPE DMEMEAGDTDDPPRITQNPVIN GNVALSDGHNTAEEDMEDDTS WRSEATFQFTVERFSRLSESVLS PPCFVRNLPWKIMVMPRFYPDR PHQKSVGFFLQCNAESDSTSWS CHAQAVLKIINYRDDEKSFRRRI SHLFFHKENDWGFSNFMAWSE VTDPEKGFIDDDKV
3382	33750	B	3419	36	335	
3383	33751	A	3420	2	1602	CRLKTTAFSSPSSRHITACLPRF WQICSLPKHLIPPEAPPVGMs*R RRKPVWVKSMMLG*RIP*GKR DPPTTAKCRTCSQEETGPAGT QGQAARQLERRKLPPYVQT/PP RPDQLKGVCSLQTDALSLAPTA ERHSRLPPPSRQQPTSAGTEA GACPNTRRPSGLQLPAAVQTPS GQTPSVPKPGLEPTSLPVGSG/PI SASHSQ/PVSKINKK**VCESPY METFP*DAKRTRHKRADTARR GEPLRPRTSVPRRTVPAPSEKLR GSRRGEPTAAPRRDPRRAGSL THAGPPGG*RHR*PGWPRGTA/ AKTPVAAEALIAAAAPLALHRI PLGAPPQLPAAPAP/RLALALRG ASAA/RPRVAPSAASPQRCLLR/ GPPSPQSPAPGPVAPSAQGRG AVPGGVLAVLLPGAPRLSGKRP AAPRGDTPAQGVPLAARAP REGPGHGREPVIEELERRGAEL RSGKGGTRSEGVRGGRARGIV YGGAHGPEVGKDKMPLKPRNL SAPVAIGLLHGAGIRFLNLAL HSPA VDFGQIT
3384	33752	A	3421	3	498	IIDPTQYRPMVPNKVSSPC*WLP TITQVHPDNEAEPIPS/PARSCAP ICGVP/AYGSPLSQSSVS*TRQ*F PSCSQSL**GSPTLVNPKTAYT* NSGSRGG/VSFEDTSHQCYPG TG*GQQPLQ*SRNHAGPPGG*M T*VTGVAERDK/PPKTPVGRRG THSQPPRRSP
3385	33753	A	3422	1	270	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3386	33754	A	3423	1	1899	MGFCHIGQAGLKLLTSKDLPAS AFQSAGIAGFWLLDGISGPILGQ REACCPAGNSNKELKQENSAL AEQLQVVLLDKAGMQCDLEEL KKKLELTELTLQQLSSWCEAPD ANQQLQQPTDERAQLAEHLGQ VMEWLKYLQMEREQYAEYLH GESAMWWQRMREMSEQIGHLI VPGICEMGGAQPEVVMGLGFV EVHTLREERVHSMRSRVQELETI LAELRNQVAEPLPPEPPAGPSE VEQKLQAEAEHLWKELENLAG QLQAQVEENEGLSHLNQEQEIG LLRLLEQEEKLLEQEERLLEQE ERLLEQEERLLELQESLLEQKR KAASFLS*TPTPGAPSRALRGK YVTSYQSQRSV/REDVDRENEY ISRLAQDKEEMKVKLELVLQL VGDCNKWHGRFLAAQNPAD EPAPWDPAPQEIGAANKQGGLF PGCCLVTPGGFHGDCRGAYGA QSSPDSQQAQNPDLAVAGKAA FWEFKEHQESLTLLKSWGRRK SGSGQAAQLREGSRCAAARRH LARALPAARMPKRKVISTEGAA KEEPKRTSASLSAKPPAKVEAQ PKKAAAKDKSSDKKTQTKGKR GAKGKQAEVANQETKEDLPAE NELSSLYSFYARSLILAFIIHLRM
3387	33755	A	3424	198	364	FLII*YEGINCSRIVNLRTAWCF FSG*IFRQKKCKQKGKGEQREN RPEVANPRN
3388	33756	A、	3425	3	238	GVCPPRGRSCSDFKADSLYSFP CPSRCGS*ESSTQTCSGFWTGCT ALHRWRGMPERCPPESRDS*TR FPQSSLPGHKT
3389	33757	A	3426	3	681	HIRGPRYSGHSAFGCPYSDMN LKKEATLHDRLREQTQAMLES DSSHKSLSLCSLNFNGKHEKV NSQPRLVQQAQCLKIKGKEDID LDNLFREYSVEQAQQVLHQS SMSTVSAHPFRDLPLGREQHCK LLPGVADIRASQVARWTVDEV AEFVQSLLGCEEHAKCFKKEQI DGKAFLLLTQTDIVKVMKIKLG PALKIYNSILMFRHSQELPEEDI ASGQEV RG



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3390	33758	A	3427	30	981	TQDPWPSPVLSWRASSDPAAG HRAEHI*TYWPWKLEGTDIWL VLYMPLVQPDNFIKKHSHLPTY CLFKEDVKFPFRTCRLTYCWLN YTEEITYLHTKKVSVGQSAVRE EFAAACTWSIRIGEKLAILLSLY LCRQQALLNMRMSVPIHESGV AQRSPVMDKLAQYSVEQAQQV LHQSVMSTVSAHPFRDLPLGR EQHCKLLPGVADIRARQVARW TVDENLHGLIQTQTPLHDESIS KGESPALVVTELRCMTATEP LVPTKNPYQERGHIGDSFLHYT DQEPQPWDQSSVHPTAPIYSV SSGFRVTRGSDI
3391	33759	A	3428	1	864	MVSALPEVGRAQILRLIAYIRSP APPVVGVERAARRPAQAFGLV ALPSTDATVFANQPLARACIGA ARHREPDAPGQSAWVGEECLK DALRSPETPKLGSLSPPCQDTRP GRASNDFSLEMGYSSLSAARLK IHGQVFQCCGPGPLRTLHWITQ S*TYLNILALET*GAQNQP*EW QAVD*GAPGLFSHTLGVPFR/RL PQHPKQIICFQNYEYSVEQAQQ VLHQSVMSTVSAHPFRDLPLG REQHCKLLPGVADIRASQVAR WTVDEPYSSAPRGPELSAGANS SRGA
3392	33760	A	3429	201	336	QQTTPGKAVHAPFIADQSLT*EL VSVFPQQLFPYRR*DSHSGKS
3393	33761	A	3430	600	768	TDTSSYHGSG*PAR/NG*MHSFI RCLLLK*GIEPCALNGDSVLKS RTDVTFTPVNITTKVKSVMHN EALSRLPGDNVGFKNVSKMF VMATLLFSDCIHNTFDQMWRT KEHNEARWSLQSSGDKVMKEN DELRDSVSQLQKQTLKSPKI ALGESLISCRERAEIIVDKQTQ ALIMGVADLQGRVNAQLHQVS TVKVRDWKRMGPYNLECGTV GRTLKLTWLSL
3394	33762	A	3431	1655	1841	EHQAEAEAGDGGPRSLPMKPG SPLMPDKAQRKQVRSRHGRGG RGGG*AGPGIPGKPGSPVSP
3395	33763	A	3432	1	1773	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in U.S.S.N. 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3396	33764	A	3433	648	1884	LDPEVAWAKWQHSTVKGPKQK QFAFSWQGGQYTFGLPQGYIN SLSLCYNLIPRDPD/RL/SLLQNI TLVHYIDDIMLIGSSEQELAYTL DLLVRRLLCAKGWEINLTEIQEA STSVKFLRVQWCGACQDIPSK MKDKLLHLFPPTTKKKASLFGF RRQCIPHLECGPEQEKAQQAAQ AAVQAAVPLERYDPADPMVL/ V/ELTWLWPLLSAQFASSGDQH *ALHMAPFLGVVSQPLGGKLIIL DIFHHGKGRVLSLE*TLTPDM GLPILHIMLLPRLPSVNSQNALS TVMPGFTGPGIKGWKWHHSPS PLVIH*QNFCFLFP*HYVLLA*R S*FQRKEPCHQET*Q*FH*TG*S* GCQLDTLGSCYF*VNKLRRRELQ CWLG*LTQTIKMKSVYYSITEN CWMKRSPVKRRKILELEEA
3397	33765	A	3434	I	2223	
3398	33766	A	3435	I	1078	MNKEMSGQTFVGKQNSVRMP KIISGLGVQKPNRQWRLVQDLR IINEAVVPLYQAVRNPYTLLSQI PEETGWFTVLDLKDALFCIAVH PDSQFLAFEDPLNPTSQTLWT VLPQGFRDSPHLFGQALAQDLS QFSYLDTLVLRVDDLLAAPS ETLCHQATQVLLNFLATCGYK VSKLKAQICSQQVKYLGLKLSK GTRALSEERIQPILAYPHPKTRK QLRGLLGITGFCQIWIPRYSEIA RPLHTLIKKTKANTHLVRWTP EAEAAFQVLKKALTQAPVLSLP TGQDFSLYVTEKTGIALGVLTQ HYGEERNS*LPTEYLSNIRKPLG DYYWLYRNLKRWQSYTARVIR KERKKGK
3399	33767	A	3436	I	1677	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3400	33768	A	3437	1	2052	MVLVVVAVVVVVLVVAIVV VVVVVAAVVVGAVVVVVVV MVVVVVVVVVEEDNQHKTA INNNNTAKNPQQSPFHSPATST GAEATQMRRNQKTNPHNMTK QVSLTPPKITLAHQQWIQTKKK YLIYLKKHSGV NKIPRNPTYEG CEGPFQGELQTTAQQNKGGHK QTEDHSMMLMDRKNQYCENGH TAQAVPNPYTLLSQIPEDAEOF TVLDPKHAVFCIPVHPDSQFLF AFEDPSNPMSQLIWTVL PQGFR NSPHLFGQALAQDLSQFSYLDT LVLRYMDDLLLATHSETLCHQ ATQALLNFLATCGYKVS KPKA QLCSQQVKYLGLKLSKGTRTSL EERIQPILGYPHPKTLKQLTAFL GITGFCQIWIPRYSKIARPLNTRI KETQKANTHLVRWTPAEVAF QALKKALTHAPVLSLPVGQNFS LYVTEK/TGIALGVLT/PGTSAQ LAELIALTRAPELGEGKRVNIY ANSIGREREFLTSKGTLVKHQE AIKRLLLAVQKPKEVAVLHCW GHQKGKEREIEENRQADIEARR AARQDPPEMLTEGPLAFELA MATARAELSLAIHHCCLP PPPQ TRCWLP SLRIRQGVCCIPDPAR AITLTAWPKIPFLGIRKAKNPRS EKTRLATILEAACCHFGSGPPPS WELWEQGPVTVQTHILRSHL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met bod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3401	33769	A	3438	294	2340	EKCRHNCSSRVWQSLVSQSVW ATEGQYGRITKNARPVQVKIDS ASFPYQRRYPLRLEAQQGLQKI VKDLKAQGLVKPFNSPCNTPII GVQKPNGQWKLVDLRIINEAI VPLYPAVPNPYTLLSQIPPEAE WFTVLDLKDAFFCIPVHRESQF LFAFEDPSNPTSQLTWTVLPQG FRNSPHLFGQALAQDLSQFSYL NTLVRLYLDDLLLAHLETLCH QATQKKTGIALGVLTQVQGTSTF QPVAHLSKEIDVVAKGWPHCL WVVAAVAVLVSEAVKIIQGRE LTVWTSHDVSGTLTAKGDLWL SDNLLLQALLFKRPVLRHTC ATLNPATFLPNNKEIEHNNHQ VIVQTYTIQGDLLLEVPLTDPDL NLYTNGSSFVEKGLRKAGIHPS RQWTPLWPKAGPEMLSKRQVL ESGILKAFLVPYLLVAVLGSIDF NGKPPVAVFSLSQAHRLCAT WLLGYGEVWIHSHTAIKTYQ RRRSQDGRIGTAPVYSSQRERR RRRVISAFPSGIPDLQLRVLS VRRKTNKQKGHPHQPICTSPS SRPKVDKTTKMGKKQNRKTGN SKTQSASPPPKERSSSPATEQSW MENDFDELREEGFRRSNYSEL EDIQTKGKEVENFEKNLEECITR ITNTEKCLKELMELKTKARELR EECRSLRSQCDQLEERVSAMED
3402	33770	A	3439	2	350	YKVS KPAQLCSQQVKYLWLK LSKGTRALSEERIQPILAYPHPK TLKQLRGILGITGFCRIWIPR*S SPTGQE/FSLYVTEETGIALGILT QVQGTSLQPMEYLNKEIDELDQ GRTH
3403	33771	A	3440	1	897	
3404	33772	A	3441	1	429	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3405	33773	A	3442	3	957	NKIPRNPTYEGCEGPFQGELOQT TAQQNKGGHKQTEDHSMMLMD RKNQYCENGHTAQAVPNPYTL LSQIPEDA EWFTVLDPKHAVFC IPVHPDSQFLFAFEDPSNPMSQL IWTVLPQGFNRNSPHLFGQALAQ DLSQFSYLDTLVLRYMDDL ATHSETLCHQATQALLNFLATC GYKVS KPAQLCSQQVKYLGL KLSKGRTLSEERIQPILGYPHP KTLKQLTAFLGITGFCQIWIPRY SKIARPLNTRIKETQKANTHLV RWTPEAEVAFQALKKALHTAP VLSLPVGQNFSLYVTEKIGIAL GVLTQELVLSWQN
3406	33774	A	3443	146	1303	EKCRHNCSRRVWQSLVSQSVW ATEGQYGR TKNARPVQVKIDS ASFPYQRRYPLRLEAQQGLQKI VKDLKAQGLVKPFNSPCNTPIL GVQKPNGQWKL VQDLRIINEAI VPLYPAVPNPYTL LSQIP EEAE WFTVLDLKD AFFCIPVHRESQF LFAFEDPSNP TSQLTWTVLPQG FRNSPHLFGQALAQDLSQFSYL NTLVLRYLDDLLLAHLETLCH QATQKKTGIALGVLTQVQGT SF QPVAHLSKEIDVVAKGWPHCL WVVA AVLVSEAVKIIQGRE LTVWTS HDVSGTLTAKGDLWL SDNLLN QALLFKRPVLR LHTC ATLNPATFLPNNKEKIEHNHQQ VIVQTYTIQGD LLEVPLTDPDL NLYTNGSSFVEKGLRKA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3407	33775	A	3444	1	1647	MNKEDYNDDDDNGDIKYLPI KTGYNKTVQIPITSENSTVGLSN TEADEMDRLKCERDDALKEVN TLKRRTKGGKHLTLKVITYLSE TNLHKNYLWECILMGQLGCYE ILRKPSALGLTPEHKGNVGHT GEKTGAG/PATSRPPDSFPN**G PPFNPNGTKGDRQRGKQQTKE CQYSPIMPTPSSGRRRIWSSQ\R HVPFSLSDLIDLAVPNPYTLISQ IPEEAEWFTVLDLKDVFVCIPVH PDSQFLFAFEDPLNPMSQLTCT VLPQGFDRDSPHLFGQALAQDLS QLSYLDTLVLYVDDLLLAAC SETLCHQATQALLNFLATCGYK VSKEKAQLCSQQVKYLGLKLS KGTKALSEECIQPILAYPHLKT KQLREFLGITGFCRIW/NFQALL LERPVLQLCTCATLNPVTFPLD NE\EEYNCQQIISQTYATRDDL EVPLTDPDLNLYTDGSSFVEKG PQKAGERRAVLASQSLTPLGR NGRSIPATLALESKELVKS VRA LLDMDCAIPFLVGTSIVDPY LK YEPTTKNHLIMVQGEKNCITGR
3408	33776	A	3445	1	2217	
3409	33777	A	3446	1	749	MNQSDQEMTGAFVHMKSYTG LISGVAVKMERHIYQDRRIAIEK EFNSCRTGCMGDWSFTITQIRL LENTGIRVFKDNLVEEAEWFTV LDLMDAFFCIPVHPDSQFLFAFE DPSNPASQLTWTVLPQRFKNSP HLFGQALAQDLSQFSYLDLVL RYMDDLLLAAYSETLCHQATE ALLNFLATCGYKVSQPKAQLCS QQVKYLGLKLSKGTRDLTTFLP VNEEKIE/P*LSTSNCSKLRC SRG TSRGS LG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3410	33778	A	3447	1	1374	MPLLQMIATPLQQSLISTEDEM DELTEVGFERWVITNFTEEPSA LGFTPEHKGNVGHAGKGPLESS SPDPFLCGQEKQEKGAGLLHRQ YPLRLEAKOGLKKIVKDLKAQ GLVTPCSSPCNTPTLAVQKPNG QWRLVQDLRJINEAVVPLYPAV PNPYILLSQIPEEAWEFTVLDLK DAFFCIPVHPDSQFLFAFEDPSN PMSQLTWTVLPQGRDSLHLFG QALAQDLSQFSYLDTLVLQYM DDLLLVTHSETLCHQA'TQVLLN FLATCGYKVSCLKAQICSQQVK YLGLKLSKGTRALSEERIQPILA YPHPKTRKQLRGLLGITGFCQI WIPRYSEIARPLHTLIKKTKAN THLVRWTPAEAAAFQVLKKAL TQAPVLSLPTGQDFSLYVTEKT GIALGVLTQHYGEERNS*LPTE YLSNIRKPLGDYYWLYRNLKR WQSYTARVIRKERKGGK
3411	33779	B	3448	1	2862	
3412	33780	B	3449	94	1248	
3413	33781	A	3450	1	3805	MQWEEAEKDPSGSCVFQRPV ALVFPLHSKWTLVNSPSSGDP YVPGRPAQSGQLSLPAPPYVL PGPGKIKQAGNNPSLTSIYRSEV FCAHRHLHPPQLVCARGHIGSA HLSVDRGSLIWEVLESTVWART NEWSPVTRTVLISALASTHIPQP CESRPPVPPEYEVTVLRSGTA QLPPWSSSTSWRLTDPSCPKHA AWLTDLASSKGPAAGGTGSFS QPGTLTSTRTNPLKKEKSPEDL KQIKIDLGKFSDN
3414	33782	A	3451	1	444	YSLVEFHTLVLQKSDVEAVF/S KYCFIVGCSVHKGFV*YVNE RNARAAVGGDIDSSFDLDHDF QRDYYDRMYSYPAHVPPPIAR AVVPSKCQHVSGNRRGKSGFN SKRGQRGSSKSGKLKGDDLQAI KKELTQIKQKVDSLLENL
3415	33783	A	3452	3	93	
3416	33784	A	3453	117	316	SSATFSAL*ETLPSNTMASSSFD LDYDFQRDYYDRMYSYPARVP PPPPIARAVVPSKRQRVSGNTS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3417	33785	A	3454	102	1059	ETLPSNTMASNVNTNKTDPRSM NSRVFIGNLNTLVVKKSDVEAI FSKYGKIVGCSVHKGFVQY AYEVRNARA AVAGIEDGRMIAG QVLDINLAAEPK\VNRGKAGV KRSA\AEMYGSVTEHPSPSPLLS SSFDL\DIYDFORDYYDRMYSY PARVPPPPPIA\RAVVPSKRQRV SGNTSRRGK\SGFNSKSGQRGSS KSGK\LKGGDLQ\AIK\KELTPD KTKK\WDSLL\ENLEK\KEQSK Q\A VEMKNDKSEEEQSSSR/VK KDET\NVKMESEGGADDS\EE GDLLG*MNDNE\DRGDDQLE\LI KDDEKEAEEGEDDRDSANGGG
3418	33786	A	3455	299	509	
3419	33787	B	3456	16	101	
3420	33788	A	3457	1209	1828	GNCDSPARPARPPHRQGCPRPS PPPRGRPRALGPTRASAAAPA DLPPPAAPHPAPAALVPHTAAP K\ARNALPGSPGALTEGAVLLP NAGARRRPRSSEKPGPAPSWP RIPGFRTGAPPPATPVLAAGGL APPSPGLAGQQVALPSQVPADT QSGVKSGSQDRGRN*QSAGSA GGGARTQVPGPLRMWKRAVW PGDWAPHANI
3421	33789	A	3458	387	772	PHRKQAEPPRHHERLGRRVRH HARHGRGSRPDTAEEAAGGCG DPRAFQQLERRLRHPPLRWQGL LRRQRLLEEP\RRSL/QTS*S*C SPVTRPSSGCSSPRSWMETRRG APAPPAPRSRNKPTTWPH
3422	33790	A	3459	362	608	FFFFLNRVLLCHPG/WS*SGNH QWQSWLNS*PQTPGLK*SSFLC FRKWWDYKHEPLYPAKPHFEF LFGSSLQVREFFGKIKV
3423	33791	B	3460	1	612	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3424	33792	A	3461	1277	2152	SRAAPTCFSWLP CGASTCPWL MWAMSGRMVAPLQRVLRAP GLEGTLGGRQHGP TTPSVLHFS LTMNSMFG LQDFNVTPLAAQA TLPPGSPGRPTLV PSTAAPNSLQ MFTGGHGA*FPRWQPQPPSGVS /SHGAPPGVPHYCRQGRSPGKR\ QRKWLESEVQAQGP*EPDPTQL QTSTRTACG*GPPSQADPD PDP TRPRTPDLD PNCMLRLTPKPGR RQSRPH/GPRTPTQTD PDPVQP PAPEVKPQRP P/WAARAPSDTA AS*GGLTCNSRPIREGQMGSPP AGSLLGAL
3425	33793	A	3462	1	2064	MDGQC SHYCVKTDLRVHSPFT TGAVHADQSCCKTTSARWEDT CDLTGSKKTLVISNIVIRTSDD KLENEWETQSQNRNRVKPTAA DPCRNE/NEHSS*EKHPEVLQES ANDRLRDNERVSQRQSQPTTVS QRQSQPTTESEPTTES/RQRQSQ RQRQSQPMTESETMTELQKMT ESANDRV SQRSQSQRQSQ\QR QSQRQRQSQSQ*QSQSQRQSQS QRQSQ\QRQSQSQRQSQ\QRQS QRQRQSQRQ*QSQSQ*QSQPTT ESEPTTEVSQRQNQRQRQSQ/ DDRIRDNDRV SQRNQRQRQS Q\Q*QSQRQSQSQRQSQPTTES EPTTESANDRV SQRSQSQRQS Q\QRQSQSQ*QSQPTTESANDR VSQRQSQSQGQSQRQSQS/D DRVSQRQIQSQHQEDRPPKYQN KNVQVHA/DDKPRSDPQRRRN LTPPVKTAERRPHQE HVVKGEK ATSPSRHSTSTAPTRPPSAETAH VNVMCGGDMAHINQGHVEAP QGSHEKHVGAARDQYERRDA QSEKSQQVQTTGLRVHVSRRPP HDGSLTSTGLRVHVSRRPPHDG SLTSTGLRVHVSRRPPHNGTVT STGLRVHVSRRPPHDGSLTSTG LRVHVPRRPPHDGSLTSTGLRV HVPRRPPPTALSHPLDV SICRTL NAYPEMLTGERSTFPCVNVKN EKA VESK KDT PFKCESKESWI
3426	33794	A	3463	1	424	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3427	33795	A	3464	1	492	MDESSFRGSITQSGSAKTAGLT GFCKLCKTSSWHTGAAQILEGG MEKANSPQYADPQTHLSWHTL PPGSQATSANESNVNFLSLPDT NSPEIRPDHSPVPDRSVSPLEHI PRTFPKPGTG/PPHINTVTNPSA GAPR*E*PS*SGFNPGCFQLVRP SRISGTPV
3428	33796	A	3465	107	543	KREGWKEESDFWDGSHLPPLN SRCSTRKGRKTGRCGAATAAA SSPREGRPPPSWAGHPCLGSC QWLRSCR/RGLAMAPGALPAL GEEEGPGASGLSAEL/RASERGL GQGLGPAALHS*ASPTPWAPVR PEPPRAPPPAPWRPVPL
3429	33797	A	3466	27	1021	STQTWPVSEETGSPQQRNRC*SS HQPDTASWVLQREYSHRKGT PRGMQGTLPCLPSLSGCRSPSCP AAARPPRPRAVRFPPTAAAS SPREGRPPPSW/RRPSLPRGLP VASELPEGLAMAPGVLPALFGS TLPL*AVT/PH*ECL/PASLLKPA RP*THREK*TPDVQP*EL*HSP *RSAASLQEGPQLHS*SQ*DQEP TNSGHTYTLGTGR*FYTVQCFL WLG*TYRSSHRPGFACRCLEPG SAAPCPSHCLSAGPEGTL*AAC LGKVPGRSAPRSDQWSPGGRA PRGVPPPPLSRGHCKALASCAP SADA\REPPHRALLGSPKVHTP
3430	33798	A	3467	807	1428	GSDRLQPQPLLFGRDVLLLLPS GPAIPASGLASVFGAAGRAGHG SGGSA*TWGRGRTRRERPLGG AGASE\PGSVGPRGA\GWVSGP VRAPPRAAPGTLPSSGRCRAP PPRAQACVALTCPGPGGRCPL PMDRPALAMP/SHL/HPRPGQV APRWSPCSRREEKGRHERVDI GHSHLVFALTFLP*FGGGGKT EAAQNSWRIPPAG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence .	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3431	33799	A	3468	68	1153	LLKMFRAKAACLTSMAWVLPPLSLIVLVILSPGSFILQITFTLLEPVLRPPSSAEKPLEPGPSSSPSSGRARGA\RPALPAAPKPLASPEAGMAVPGWGRR\SPSRREEAGAVACLSLTVFSGKWICQAP/SAWGCCC*D*GKLVHRST*RCAR*KYPGLKPDQEGYCQPGAPVEVHPRCRDFPS/VLRRNLGFSALAQSEYLW*DHS/CVLVVG/PVLFC*TLFASFPIRLYPEELLA/HKVTQCPSLVSPCNWLSAGGGRKFEPALRRPSSAERPLAPYPSSSPGAGRAPQPWPALPAAPKPLASPEAGMAGPGGRRTTSLPKRRGCGCSRPASSCFSSLSGWAARVERRQMASIPEIALLFPSPL
3432	33800	A	3469	1	248	FRPAIPSSAPRGPTPEVLRPPSSAEKPLEPGPSSSPSSGRARGAMASPSSSSEATGKPRGRDGSPRMG/VGGRPSRKEEAGAVAGGGKRTARGLRGRGGAATGQEGDRHPYRWRRQSRGILHEF*AASGFPPPPNHGRHTVQAEPPEPWPALPAAPKPLASPEAGMAGPGGRRTTSLPKRRGCGSCCRGEAHSPTTARTGEDAPRPGREETGTQTGGDRRGAA/RGSP/RSPWA/CIRAPLPSLGVAPG/VPSGRLAHGDILISPCTLPHSELGSPGH*TQANFL*DPGRRRTVLWKVFQGRSRKG*EGRGPGRGHNYDGSVTPGNFIA*SPS/PLPLPPSFTWTLPKTRIEPESGVTKCSGTLGTRVW/RPGSWG LHPGSAPP*LRRPSSAEKPLEGPSSSPSSGRARGAMASPSSSSEATGKPRGRDGSPRMGEEDVPPE
3433	33801	C	3470	365	589	
3434	33802	A	3471	1	465	MVTTTCYCKKAKPIPRRCSAKEWSCQLPCGQKLLCGQHKCENPCHAGSCQPCPRVSRQKCVCGKKVAERSCASPLWHCDQ\KE/CRSQSCS*RRKTKTTG\ELEAFENRLKGRRKKNRKRDEVAVELSLWQKHKYYLISVCGVVVVVFAWYITHDVN

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3435	33803	A	3472	1	444	YSLVEFHTLVLQKSDVEAVF/S KYCFIVGCSVHKGFV*YVNE RNARAAVGGMYSSFDLDHDF QRDYYDRMYSYPAHVPPPIAR AVVPSKCQHVSGNRRGKSGFN SKRGQRGSSKSGKLGDDLQAI KKELTQIKQKVDSLLENL
3436	33804	C	3473	190	265	
3437	33805	A	3474	144	316	
3438	33806	A	3475	3	342	
3439	33807	B	3476	180	1370	
3440	33808	A	3477	102	1054	ETLPSNTMASNVTNKTDPRSM NSRVFIGNLNTLVVKKSDVEAI FSKYGKIVGCSVHKGFVQY VNERNARGAVAGEDGRMIAIG QVLDINPGLQSPKVNRRGKARC ETDLQAEMYGLLF*PWTYDFQ RDYYDRMYSYPARVPPPPPIAR AVVPSKRQRVSGNTSRRGKSGF NSKSGQRGSSKSGKLGDDLQ AIKKELTQIKQKVDSLLENLEK IEKEQSKQAVEMKK**SQKEEQ SSQLR*KKDET*C*RLEVLKGG AD\DSA*GRGDL\DDDDN*RS GGIDQLE\LIK\DEKEAEE\GED DRGQRPMGGDDSLST
3441	33809	C	3478	216	350	
3442	33810	A	3479	1	3048	MGLMVLNVENCSSFGWIGRAP PRNTTVDLNSGNIDVPPNMTSW ASFHNGVAAGLKIAPASQIDSA WIVYNKPKHAELANEYAGFLV ALGLNGYLTKLATFNIHDYLT GHEMTSIGLLLGVSAAKLGT DMSITRLLSIRIPALLPPTSTELD VPHNVQVAAVVVG\IGLVYQG\T AHRHTAEGPVGLR*DGLLFLKC NTALTGSHTP*AAGLALGMVC LGEQGPCCGVWEELGERETFK DLIFNRKAPEGSNAT
3443	33811	A	3480	173	422	AAAERGAEASGGAPPGILEDA GRERRGSGGGR*AGPVGDSKD GVGAV*PPQPHSHRDHHQ*PGP LGGPGCSG*PHLREGLET
3444	33812	C	3481	241	426	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3445	33813	A	3482	3	826	RGEEAVSGKAGPDSRAVLRG QGQVWGAAAERGAEEASGGG TQGEGRREVFDG*GTCSLGFPD* PGEQLMGLVYTLGG*PHSHRD HHQ*PGPLGG/HGCSG*PHLRW VPVSALGGRGVGADQLVRVAQ GSPETPCSLSGESWPA/GLPGPT PPGWQ**PGP*RAPGLQKAPKG PSYQQGPAPPSHRQSTAQRGVR PRTKRCPSLGGDLSLLSLAVP VAQPAPRCAYRMLPLLFLGLRL TPVPSPLSSDKVIYNLHLQFIVF TSIKFSATPFK KKKK
3446	33814	A	3483	135	396	LCWLQIHRQGRKPCSPSLKG* *ATCMPRRRKGGFLSSVSMDD THSPGNEKIKMPPTMSKQPGV LQQDCREKLSHCLVCSLGL
3447	33815	A	3484	256	1860	RAPETPRKILGEAGGCRGDGDR PAFQPVNRSPFLSKLLGQCGR STLCRLCFRSLNHLFWLFPDGP WRGPGGHSTEDGSLQGKAGQD FSC*NLEISFFP*PSPTCSPTLHC GQKPRAGQGHLHSAVPGAPCW AEVPALLPRRVGD\PGPDILPPS TRV*RCPLDRNSPILL*VHFLKD RATTQNTARPPMGWRPLQQSR QISPAVGGKLCSLPVMI*ASPH SASVVGTPA*IGGWGW/P*GF QLIG/LPHVVRTQPGLLSRVPS VRGTQPGLPGLPESRVPSVRRT QPGLLSRVPSVRGTQPGLPGL PESRVPSVRRTQPGLPDARVPY VRGTQPGLPGLPESRVPYVRRT QPGLPDARVPYVRGTQPGLPGF RPSRVPRSFCEGDAAGPPRRPRS YVRGTQPGLPAPFSPAFLVRVP SLRGTQPGLPGLPESRVPSVRRT QPGLPDARVPSVRGTQPGLPGL PESRVPSVRGTQPGLPDARVPY VRGTQPGLPGLPESRVPYVRGT QSSLPGLP/GVPRSFREGDVAGP
3448	33816	B	3485	111	258	
3449	33817	A	3486	1	4455	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3450	33818	A	3487	1	2302	MTECLDRFIDSIAAVPRSTKSTV QKCLPCLSDGEDKIPDLIAITWT PRQELLEKNVISETGTLPTPC LDTSTKETADKSTSGKTIHQSIK TVLKDLSGSIDDLP TGTEATLSS AVSASGSTSSQGDQSNPAQSPF SPHASP HLSSIPGGPSPSPV GSPV GSNQSRSGPISPASIPGQDPGYG NS/DKSMGHEYSQR/SFLEDRFP IAVWWPRPLRLKNCLSVLSYSS PSEVT PHPKSESSGTS/SAAQDL QGCSQDVGQPASSSGGSTREQS TSSFIRIVAASSPSSCWKLQVLL SG/AGGDYSPVLLIGGYSRVCLP Q*SDASAA TREP/GQNPVPIPP* ASHQCHRKEGPPCRQQAGASQ MLSRD*AKQLKPSSSHTLSKHK TT/GTRKSLLFGIKKAYNFTNKY YSELM TQTRPQSTPSIP SPLPLD DAGLERSQGNVSASSFMVLGN RERGEDTTGAGFGRSRNKEEVP CTIYVGAESP/EMC*WMDHT*R KEGKGG LVGVPCV/SREHLEEW QYQLQR*ISLKTQQV*RRKSEV LLGRS/SNTAQACSCWQLTCFM AGTQRNPQMAQYGPQQTGPSM SPHPSPGGQM HAGISSFQQSNSS GTYPQMSQYGPQDGGGDVSD VMAIDDDG SCHLLGSAVPGA VLVTFNLLLIIVVTLQMTEPQFR EYITGDPLESTCRHASLALAVV LHQETAMTMITDSLAVVPHSG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3451	33819	A	3488	2	1427	EEPSRREPR/PPGHAPGAVAGG AGPMARAGARGLLGGRPPGL RL/CARASARVAAG/CGRRAA REPPRRRVPRPARQPRRGATA AAATTT*WASGTRPSTAAPEPT ASAAAR\RLPLLLPRRAAPRPE PLFQLRHAGLGPDRPAARPRPR HRSAPGPRPRAQPYGRLRCVRR RSAAGDGG/EPGLAFDEVGDRG PPLTAVPAG\ADRASEAAGPPG ATASHPGPTER*QGRSEPGHR TEPRLTPRSRQEA\QQRAPGVG RPGAPARPAAGRRDPLSSPEL GCSARRHSSLPCRRGRPAGL\LR QRFPALEPSRQPPARAPR\HPR TCLRRWTPAPGPRRSTRPLPRR APMPPGPPVARPGP/PPLSHPTA RAF/HGTPATRARGPAPVQCED A*DLQPAAPRPLRQGRVPVP KDQ*QDRGHRVKRGRGA/RRG MGWGPVCPSEPQATGRGAPAV RPALLSASTAVVSWSLQAAGSS CK
3452	33820	A	3489	1	262	
3453	33821	A	3490	411	1919	RSYGVRWRRHAPPGRSSPRIG KVKSASRAWLRCCGCRPSR TGMRWQMRWPMVTLARQPFW RRSVSWRGAWGSRKSWRRS RATRSCSMTATASCSCRLSRID DISNYEVNLEPGGHDDITSCQG RGRSLPQRAPIGLCCSLGGGAV LADTPLFLPRPKPRDGPGRSRA QKRQQQSSALRVMQRNCAAY\ LKLRLHWQWWRLFTKVKPLLQ VTRQDEVLQARAQELQKVQEL QQQSAREVGELQGRVAQLEEE RARLAEQLRAEAECAEAETR GRLAARKQELELVSELEARV GEEEECSRQMTEKKRLQHQH ELEAHLEAEAGARQKLQLEKV TTEAKMKKFEEDLLLLLEDQNS KLARLGA*GQLKGWGWGALV G**MVNFTPWGLPHCGSQRK LLEDRLAEFSSQAEEEEKVKS LNKLRKYEATIADMEDRLRK EEKGRQELEKLKRRLDGESSEL QEQMVEQQQRAEELRAQLGRK EELQAALARRQRFQ

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3454	33822	A	3491	3	266	KMRRLIKSKKDIINRERQKSLSL TPTRSDSGEGFLQLPHQDSQDS TSVGTNS*EIDGQTQHPRPI*DA QSSVCCAGSQHGM*ANHSQE
3455	33823	B	3492	1	241	
3456	33824	A	3493	1	1486	SRLHKLCNKPRRSGTTNAKRV GPDCHPMGREGAR*HHALRGR RGEAGTRGGRQRRREQDWREA GPGPRAEVGRTAASARRARGS APGPRGPSRGRSRWNTGQPRR NRGRGAERPRMQRSRPENGAR GTGAGLRGFQPRRHGPFPSRV* GSKDIPAAARRRVETCPGPEPRPQ PQLPPRPWKGGGDARGDPKFP QAPNAVPGFCVIPAGGVVLGAPT AAGLRPTGDVALRRPAGSVEPS GS/AGSQSQCLLCGPVYPYRQQT STGP*PGGWGSPISDVPCSALIS GTGC/PKAQHVSQSLSQRSLSL VDFGRPAS/RGSLFPWPLGTGG KS\PAAPSPQTLWQSS/P/GFLYF PGE/RKGKG*SGPGAGCEPPIA VGCQEQRGAEGNLPPKPADPC AGTKQPRAQRGVQQGTSQ*PST VVMTSGRGAHSRGGPVRRGAH SREVPAAVHGGD/GLLVEGHTA GRVQQPSTGG*PLVEGPPAGEG PFAEGHTAGRSSLSTVLTFLP
3457	33825	A	3494	3	393	
3458	33826	A	3495	145	1089	VYRTEFLQDRNYFFLSLVVSAP RTVPGTWTCLLSE*RNE*ILGCD SLFPKAGQAP*VAHITLGFQSSE YSKWKFTNSPTFLELLEEFPSLQ VSAGFLLSLLPILKPRFYSISSSQ DHTPTAIHLTVAVLMYHTRGL QPARATLMSTHSSSHPEGPLPA AVSGAQCASGFRLPEDPSHPRV LIGPGTGIPPFLSFQQRLHDSQ QKGVAGGFPGVQGGRMTPVFE CRSPNEDHIYQEEMLEMARKG VLPVPTAYSCLPGKPKVCVQ DILQQQLASEVLRVLHKEPGHL YVCRAVCMAWDVAHT/L/KQL VAA*LNLN
3459	33827	A	3496	292	478	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3460	33828	A	3497	87	992	TACGFIACIG*QRLEYCY*DHK GKQQEVLSKHLQMAMDISHIR RNVSCSGRNKASSKAYGTGGS QGRACDLGHNF/TPSSWERHC TLTSQGVDDFLNAKATFKIFDF SDAFVLSKVGFSGLIQKDENKE ELSDKDIYMEAGIFVSANRGP VDYCGNRGLSIQGHGGWTLRP SILVSPGVEVRGNEDSVDTAAC IPAAPAPAPTLAERCTGTAWVT ASEGASYRPWLLHSHV\KPVSPH STSLETWEPPYIFQKMYENAWC PDRRLPKKQSLMGNLYLGS AE GKYGVGAPTLETTIMQTPDS
3461	33829	A	3498	1	382	TADCAKPVPLAVVSLDSRYGQ WESRSSIHARH*LNSSSSSSSSS SSPPAVYPRFIEFIHFDIQSTGQK SHRVNTRRGPARDALF*LNSLIP LVRTSSKSAARRRP\GEAPRGTA VPGADPAGGTRPR
3462	33830	A	3499	229	367	
3463	33831	A	3500	233	525	WYFPAGRAGPADPGPGPLAGT PGAGAGGLPTYSTPLRVSSPVP RLESSSTG\SSFPADSAKPVPLA VVSLDST/RRDSGNSRSFHSWG VIN*MTRHLVH
3464	33832	A	3501	386	729	TGRGCCLPCTWRJRAQTCLT*T QCC/SCPTTYPGGGERERERK RRGEKEKQKVLRYKEAMSNK VCKYFDEGCGSCPFGENCFYKH VYPDGRREKPRQKVGTSRY WAQRSNH
3465	33833	A	3502	63	559	HSSTCECT*DSRCGCKWRS AKQ FESKIIKSCPECRTSNFVIPSEY WVEEKEEKQKLILKYKEAMSN KACRYFDEGRGSCPFGGNCFY KHAYPDGRREEPQRQKVGITSS RYRAQ\RRNHFWELIEERENS N PFDNDEE/ALSPFELGE\MLLM LLAAGGDELTD
3466	33834	A	3503	374	656	RRVGCRCFHPSQTGTCT*RPPW NVHH*PATCHLAYNRHSWSPH RA/HWHIATAIQLSAHV/ACHY QQLHHYHQHHHHHHHYRHHH HHHHHHYCHHH

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3467	33835	A	3504	1	1337	MQLQILTIFLDLHHNTNICNELE SSNVDDPCDIWEKVHISLIFTAK GSKIPKSSDFQADRELNMFDIIS QYDGCPSIGLTSGAGSTHHRA PWTQTYPQGPTHLSGSPGCILA SITGRVTKMPESSESPA WELPRF TELFLSIKDEWTCIFLQLCCPTM LLSGFPPRIEPPWSPLSDQLNPIP LEAAIATHSRIHHCLVFTASLP GPLTAGNQMADRLVATAVSNA RHFHNLTHVNASGLKCRYSNT WKA AKAIIQRRPTCQKRKIK/PD QEQPVQPV*AEGVRFWRDH*P /SHIRSRHSRMTSVSRQSTWW LPSVTWT/CPTTEALEYGSGAC LGCPISGVSKGNKTRSGAAGFH /SPAFKSALCIWRFKQQHANRP YVCWGMHRSPYSLLPRSSSSS HPQIHGNLDSDDLQVQRGECFI CRPCFHRLRSVPD TDTQCPQPR
3468	33836	B	3505	1	1158	
3469	33837	A	3506	35	369	
3470	33838	A	3507	345	564	PCASRTPVSSPWPV*PQPTSARR SPRCLPMVQ*AARASHDSQLCS CRFCVVVTPCAPQGQTCTRQV CARVTHG
3471	33839	A	3508	437	946	SFSSKIVQRMSSSCTENMHMSP SAPSSPQRPGALSLS/RPSGVGG LLKDPIAPC/SR/RLPGILSLSPQN PRAASPDSPAGFWD SVLCTCRL LRVACLCAVRSPRRLCTRCK GRGSSMVR*GGGLPIFSSSFSAT SLQLSSETVARVTPADECPAES LPSHGPVSCQGIT
3472	33840	A	3509	1259	1497	KSNMSLLMVFSISSGITVTMCSS WGH LQCRQIFLSLEGLMKTSRS GPWAVL/RGWFSHT*ALDEDA ALGHPWASTRKQAPS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3473	33841	A	3510	268	1278	SPSGPSSSHQPPALKGQVLQCL LSP*ISLRLNLHLWDVYLVEGE QVLMPMACTAFKV*WSKSTCA QWHWAFLLCLFFLLFLLDSKK DNRPPVLRAGAQCMTAHVEV LPDPSVFLSAKPRQGSSAARAV LASRGRKALCSG\IHVPTPSGLG CGGPLVP**FQTELLSSCPF*MC PGQPSCPAIPDTLENVQ\EEAG PVKAMREKGEHGIPAAQPASS\ SPGSLVPTCGTVSPSQGTIRPR GA\WRPQPRLTPLLSAPPWMR HLH/RSLWVGTSIQEDQLATCW QANHTVEGAEIFHCTKPCQGR GFAGPQGLGSATSTWNVLSSLQ ASRSIWDTAH
3474	33842	A	3511	1	1557	MSRISDDCSELCPKAIKKERR KEKKQEKWETYRE/REKRQRG QRRRNGERKKRKNTKKR*NAG REGEKKRQKGKTEERKRRGGR RRRETKEEGGS*RNKKQA*SEE KKGRTGKNRKERRKEEGREKE RK\REKDRRGGRQKNKTRERD WGGEQQKTEREEEWARKRWK VPGGWEREAPHRELEKNEQLD KHSSSRKLYDAGQLDLCNLI QSCDPECPMQATSLTRYPTTTQ IFLRGAQGWVCVELFRSYGVE DTSAWERDMRNFSGMTREKQ GKPGQLLAHRHLCAHQMSLL CADNSQKGCLSPANAAPCYGV QVAILTSAPTCYPHLEPLCRSFS LSDQQEAISDPRTAVRIARSGAS SNPRLCVTLTFPRVLQPFPHPPQ RWGEATKGGRLPAKGSPARTA AGRCGRSAGMPPDARAIFTSAA ALPKSRLVPSNIAFKGKRKDL TKAAAPNLLALRYPRPSAPVGG SHAPSPGQQLQPEEEGNEEEEE EEEGDRAPVFTTGRKDRDSLAE
3475	33843	A	3512	1	525	
3476	33844	A	3513	69	707	LRQNQHEVLKDPRTHTHGGQM GTSSPEQRSTASGAPGWRATSS CVLLASPHVHHAHGSQEAAS TPPVPWTQREYHGWPPIYPFS SHLHK/RLLPNPAREEL*RRQQA PWKRHCWRDVTTPSTKNLVE SSMVNGGLTSQTKENGLSTSQQ VPAQRKKLLRAPTLAELDSSSES EPRTAVHSSCTAHRCSAWCLA VSAVCPSRPCQSQRGLALS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3477	33845	A	3514	81	446	TQGGRIKRHLGTSASPTGIMKY PPYCTCPCFQSALHPVPGGLSG KEAESQ*LSPHPSSQAPGEDPT P/SQP/RLPKHSTLPALGFATCG R\SPSPKALPPRGTAAPPPhRY CCYYFPNRSHE
3478	33846	B	3515	58	1034	
3479	33847	C	3516	1	1470	
3480	33848	A	3517	1	606	MAGEDETPVPLPICGTRPI/DAA AAHMAPVPVSHLRKHQRVEVHG FCQVQPSYGPGE DRGLADRGST DEHNPGAAQPRAAALHAHPGG VSQLPAPAH*AGQPPPTPEQLP VSPA*SNPQVSAPSLSPKQLPSP GS*DPAPVGLAE*K*TNSCP RD YTAVAAVLGSAPAAPAQLHPA CTLRAPSLRALQEAGAPQPPMG GSGQR
3481	33849	C	3518	76	1275	
3482	33850	A	3519	1	508	MTRQLSNCWVAEECCDPLRHV TQQVLQEAPIVSQAVGGPSRTN LATTPGSHRSTYCLSGAVSSRN LIEPAGEEAGATRARAEEPPGR LRAPSGGVPSRPLCCRPPVAG CGSGLKMEDEGGGEGGGAVY CNLELKASGVILAVAAEKPSG QAVLTNTEHSEPSHLKGSSEK SYLHATPKEDIASFIAFLNVYKQ QGPP*APSYSTL/PPPPSPSSSI LRPLQPATGGRQQRGRGLGTP PEGARRRPGGSSARARVAPASS P/DGLDEVPRRDSSGETVSRTM AARGCGQVGPAGASYSL
3483	33851	A	3520	451	487	SPLEKSWPGTSHTWFP*SRP*NP GRPLPDPLPADP/LRGVPPPNQR KGMSESSRALITPFHPPLTPAPL *NRPFLWSLF
3484	33852	A	3521	1	758	TPRAPLCRGAASAARS\CKWAP WPSRPRRHP*SCAEAREGSAA QIPPASKLKHGGPSPPA/PRRG HPRLLPAPP/VVPLPATAPAAVP SAPGKPFPTPPGLPKADPG/PIG GPLSAFSGSPFPVH/EPTVLGSP QSTRNLPRPPAA*PPVAVARDA P/GSSPAAAAAKQTFASTQQTP KTT*EPRSPTGPAPALAKLFLTP GTCAPGQPSRKIKLPSRPVAPM GTIENIGYITKAFDWNVLFSDTT KGVRVDCMVQ

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3485	33853	A	3522	3	801	TLLMSHQKLLPLPQIKTPRSFHH SRHLHHQHRHHQKQHKKHH HFFYYHH*NHHHHHHHCHTPS P\HHHHRHYYHHHHHHHPQH HQHHNINHHYHHYHHHHQH QRHHHPSTVCPQEE*/HNEHR KRPHRCWKVQDPRNLGYLYIP TTHSELRLALS KHLPSFL*NKVS IYYRQSPDLCPHLNLPHQYHH RYHHQYYHHHRRHKHYPHHH HHLHHHHNHHHHQNHHHHQE TPLHRTLGLPQGPRRRSSAAQP PPPPPPLLSRRH
3486	33854	A	3523	3	229	WDPPPEFPGRPRRESSGFPASI LLVTEPGARSPRPAAHSHPPS PLHRTLGLPPRHPDGAAAPRSS PPPPPPSP
3487	33855	A	3524	1	1257	MKAIEKMFETNENKDTTYQN LWDTFKA VCRGKCIALNAHKKR KQERSKIDTLTSQKLEEEQEQ TPSKASRRQEITKIRAEKSWFF EKINKIDKLLARLIKKKREKNQI DAIKNDKGDITSDPTEIQTIRE YYKHL YANKLENLEEMVEFLD TYTLPRLSQEEVESLNR PITGSEI EAIINSLPTKKSPGPDGFTAKFY Q\MLEVLARAIRQEKE/VKGIQL GKEEVQLSLFADDMIVYLENPII SAQNLLKLISNFSKVSGYKINV QKSQAFLYTNNKQTESQIISLP FTIASKRIKYLRIQLTRDVKDLS KENYKPLLNEVKEDTKKWKNI PCSWVGRINIEKMAILPKVIYRF NAIPIELPMTFFTELEKTTLKFI WNQQRARIAKSILSQKNKAGGI TLPDFKLYYKATVTKIA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3488	33856	A	3525	2	2133	WRRYQANGK*KNK/QKKAGV VILVSDKTDFKPTKIKRDEGH YIMVKGSIQQEELTVLNIYAPN TGAPRFMKQVLRDLQRDLDPH TTIMGDFNTPLSTLDRSARQKV NKDIQELNSALHQADLINIYRIL HPKSTEYTFISAPHRITYSKIDHI VGRKALLRKYKRTIITDCLSD HSAIKLELRIKKLTQNSSTTWK LNNLLNDYWIHNKTKAEIKM CFETSENKDTTYQNLWDTCKA VCREKFIALNAHKRKOERSKID TLTSQKE/LEKQEQTHSKASRR KSRRNG*IPGHIHPPKTKPGRI* VPE*TNNRV*N*GNN**LTNQK KFRTRRIHSQILPEHSAGSSGQG NQAGERNKGYSIRKRGSIQVPV CR*HDCIFRKP HHLSPKSP*AVK QLQQLRIQNQRAKITSSPIHQ* QTNREPHE*TFIHNCFKENKIP RNPTYKGCEGPIQGELQTTAAQQ NKRGHKQMEEHSMMLMDRKNQ YHENGSAQGNL*IQCHPHQAT NDFLHRIGKNYFKVHMEPKKSP HCQVNP KPKEQSWRHAT*LQ TILQGYSNQNSMVLVPKQTYRP MEKNRGLRNNTTHLRPSSL*QT *QKQEMGKGFP**MVLGKLAS HM*KAETGSLPYTLYKN*FKM D*RLKC*T*NHKNLRRKPRQYH SGHRHEQGLYV*NTKSNNGKS QN*QMGSN*TKELLH SKRNYH
3489	33857	A	3526	1	1896	
3490	33858	B	3527	1	1296	
3491	33859	A	3528	1	1095	
3492	33860	B	3529	1	1413	
3493	33861	A	3530	1	1539	
3494	33862	A	3531	1	1167	
3495	33863	A	3532	1	1575	
3496	33864	B	3533	1	1653	
3497	33865	B	3534	1	1932	
3498	33866	B	3535	1	2451	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3499	33867	A	3536	1	2502	MTELTGIQQPQIVLFEHKGHKL VQGSSSDAGKVNRIYQHYES DKFNYYTTGLAWKTAPEQTGKT VRKQQIKLNVKKMESRSKMQE HSSSPPEQSWRENDDELREE AFRRSNYSELQEEIQTKGQEVK NFEKTLDEYITRITNTEKCLKEL MELKAKARELREECRLRSRCD QLEERVSVMEDEMNMKREG KFREKRIKRNEQSLQEKWDYV KTPNLRLIGVPESDGENGTKLE NTLQDIIQENLPNLVRQANIQQ EIQRTPQRYSSRRATPRHIIVRFT KVEMKEKMLRAAREKEIQTTR EYYKHLIYANKLENLEEMDKFL DTYTLPRLNQEEVESLNRPTGS EIVAIINSLPTKKSP/GPVGFTAE FCQRK\EGILSISFCEASIIIPKL GRDTTKKENFRPISLMTIDTKIF NKILANQIQQHKKLIHHDQVG FIPGMQGWFNICKSINVQHINR TKDKNHMIISIDAEKAFDKIQQ FMLKTLNKLIGDGTIFYKIIIRAIY DKPTANIILNGQKLEAFPLKTGT RQGCPLSPLLFNIVLEVLAGAIR QEKEIKGVQLGKEEVKLSLFAD DMIVYLENHIVSAQNLLKLISNF SKVSGYKINVQKSLAFLYTNNR QTESQIMSELPFTIASKRIKYLGI QLTRDVKDLFKENYKPLLNEIK EDTNKWKNIPCSWVGRINIVK MAILSKVIYRFNAIPINLPITVFT

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3500	33868	A	3537	1	2197	MNNAKENFLGRFQDGRIGTAP VYSPQHQRRIIRVISALPTEPPL VIPRQTGFGVDLQQTPDLQLR VLTVRRKTTKQEGHSTKTPSVR YHHQRPKEDKTTKMGRNQSRK AENSKNESASSPPKECSSSPATE QSWMENDFDKYTEVGRQLVI TNFSELKEDVQTHHKEAKNLE KRLDEWLTRINSIENTLIDLMEL KTMARELRDCTSFSRQFDQVE ERVSVIEDQMNMKREEKFRE KKMLEVLPAIRQEKIKGIQL GKEEVKLSLFADNMTVYLENPI ISAQNLPKLISNFSKVSQYKINV QKSQAFLYTNNRQTESQIMSEL SFTIASKRIKYLGIQLKRDVKEL FKNYKPLLKEIKEDTNKWKNIP CSWVGRTNIVKMAILPKIYRFN APIKPPMTFFTELEKTTLKFI QKRAHIAKTILSKKNKAGGIML PDFKLYYKATVTKTAWYWYQ NRDIDQWYRAEASEIMPHIYNY LIFDKPEKNKQWGKDSL FNKW CWENCLAICGKLKLD PFLTPYT KINSRWIKDLNVRPKAIKILEEN LGNTIQDTGMGKDFMSKTPKA MATKAKIDKWDLIKLKSFTA KETTIRVNRQPTKWEKIFATYS SDKGLISRIYNELKQIYKKKTN NSINKRAKDMNRHFSKEDIYAA KRHMKKCSSSLAIREMQIKTTM RYHLTPPEVEVVLETL/NH/RSW
3501	33869	A	3538	3	242	NLEEMDKYLDTYTLPRLNQEEF ESLNRPIGTGSEIEAIINSLPTKKSS GPDGFTAKFYQSIVLEVLARAI RQEKEIKGIQLGKEEVKLSLFA DDMIVYLENPIISAQNLLKLLSN FSKVSQYKINVQKSQAVLYTN NKQTESQIMSEPSFTIASKRIKY LGIQRTRDVKDLFKENYKPLLN KIKEDTNKWKNTPCSWIGRINI MKMAIVPKVIYRFNAIPIKLPM TFFTELEKTTLKFIWNQKRARIA KSILSQKN



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3502	33870	A	3539	281	3228	KPRLNYSKNAEASRADAINW KKGYLVMEDKMNMKREGKF REKRIKRNKQSLQEIWDYVKRP NLRSLVPESDRENGTKLENTL QDIIQENFPNLARQANIQIEIQ RTPQRYSSRRATPRHIVRFSKV EMKEKMLRAAREKEIQTNIREY YKHRYANKLENLEEMDKFLNI YTLRLNQEEVESLNRPIRGSEI VAIINSLPTKKSPGPDGFTAEEY QRYKEELVPFLKLQFQIEKEGI LPNSFYEASII
3503	33871	B	3540	295	2804	
3504	33872	A	3541	83	480	
3505	33873	A	3542	159	729	PTIVGVVIFSVCISSPWSHLKP TFHATSWLADGDTGCVLYFA SSCSSYQ*HP/CSSVPEPRYGRRI GSEFSAGSIVRFECNPGYLLQGS TALHCQSVPNALAQWNTIPSC VAPELREECRSLRSRCDQLEEM VSVMEDEMNMKREGKFREK RIKRNEQSLQEIWDYVKRLNLR LIVVPERDRDNGTK
3506	33874	A	3543	1	1116	MMARGAGVLIRKIYPLNYKHS AVEQVSRAYSFYTORPVVPEPR YGRRIGSEFSAGSIVRFECNPGY LLQGSTALHCQSVPNALAQWN DTIPSCVPCSGNFTQRRGTILS PGYPEPYGNNLNCIWKIIVTEGS GIQIQVISFATEQNWDSLEIHDG GDVTAPRLGSFGLTPH/WKLS RCMAC/DPSEGLSCTWALVI/H KMEPEQPVCGKQHPEDSQGR/K GPGPGPNHLLLPGF*VSDGRG RSRSELTAGSFQWQHSPRNGV *LHQPSPAQVPQRLFKWRLLCP QFPAGDFVKYQCHPGYTLVGTD ILTCKLSSQLQFEGSLPTCEATP SSQCVWVSPHRPEARLPAHGPA PKRHVCQKASLLICGKEGMQL
3507	33875	A	3544	373	1051	RHLLGAQCLSRAPWCWNNQAS FPFPRCPRAKGQGTARASFSWL GCRIQHEGPIRVQGRRRPHRRE PAWAHLHPPMPCRQPNLRP/PG SLRVWPC*KSLC*PSPRPARTHP PGQRCHPYRVSPSPSPRPPS*F SRTFQPPGGPRTLTS GPRTQETL SPENVPGPGAP/PAPHRHSSGPK ADVALMRGLSRAPPSAARKE RGSPESERPLNLSDGSGCCKHF TTVRA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3508	33876	A	3545	1	411	RGREARNAAAVGAAQACT*FH RTQGPSRLGGVRGQLALPLRA GLGDCIFPV*AKSEFS/HSPLHAP ASLCWGP/PPHPVL/WATHRRQ DCGTLILQGSPA VSN*DSAPPAL ACRLSCGGGGQERTAPPSRCGE KTPWEVPG
3509	33877	A	3546	107	550	TFQMNSLTECCPSLRGWGAPOS LMPALQTPGSAHLRCQGLLSV ETEVLWCHPTVIQSAVALKLH* AISPCF*LPPNYPLSGSSLPTPH ACLSLPNLQCASPL*QPPPCPRE VAPLSLEIPESFVYGILGTHITGC LCISLVLPSP
3510	33878	A	3547	54	825	VGGCLAGPQDPDGVFQTS LRK GVNRAQQRRQLPGPTPSKA KDSHP*EGG*GASPNAALLSGA GELPRACQCRLSRHLALPTCAA RVC*NPVKPRKGRSEPRSGWAS QLPGGDSRLPLRPGTSQGVFSP HRLG/EGGKLVLGVLSSLKQR GFPGE\WGAAVLSVVRGPRTGW GE\DLPRALPDQSDGSGRMRKS AAEAETGPGARSAAGRSDSDS GGRPDSCQTVPAAR/SPPCLRRQ KLPRERLPRAPNP*GPRPLGR
3511	33879	A	3548	1	1335	
3512	33880	A	3549	1	903	MPAGYHVLSDVVS VETPGCPA EFLNIRIPPGDPVFDPDQRGDVP EPPRRVPPPAARRPISTTQGLR SVGARCGTGKQLHLQPQCEIH WVKPAGLLSLVGTWRTFMSSS ELVNIPIGTRYLAQAVTLTVKV CSFTA EASETTSPPGGTNNSRR AALRAVTLTAKVCSFTPEPARP RTHQKEETPNTSEHQKEQTPDT SAFKNCNTHGEGLQLHSLSPGR PPTPPGRPNNWRNPGLKSWNT YPGKVRNFHWLFSKKEIEDIRN TTLRDVLVAVINIDPSALQPNVF VWHKGGFLP\CPQFFP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3513	33881	A	3550	1	797	ATRFGGNLVLVGLGFEMTTVPI LHAAIREVDIKGVFRYCNNTVT LTAKVVSFTPEARETTNPPGGT NNCRNAGLRAVTLTAKVRSFT AEPARPRTHQKEETPNTSEHQN EQTPDTPPLGTVTLNARVRSFIV EVNSQNPLLMWAAPDPAPGQN GPRGLYAFGAERGNREPFLQAL GLVLVRLHNLWGQRLARQDP DWEDEELFQQPQRQVIATYQI TSPHTCTYSRTRCFPVKEIDKEQ SLTSHHYLSCSHCFGHEQSDHP
3514	33882	A	3551	23	3990	HGHFWLGHGPLWLSAPSWTLI LENTTGSRRGGIVWGTRCPRKRA KSSTSPVQSLELRTPFGRGCSDL MGTTTTSWSTDG/CSKGYHVLS DLVSVETPGCPAEFLNIRIPPGD PMFDPDQRGDVVLPPFQSRWD PETGRSPSNRPDPANQVTGWLD GSAIYGSSHSWSDALRSFSGGQ LASGPDPAFPRDSQNPLLITGPG GCTQRGNREPFLQALGLLWFR YHNLWAQRLARQHPDWEDEE LFQHARKRVIATYQV
3515	33883	A	3552	2	663	VLLDERSAALDGAKRDGTLAL AAGALCREARAAQVFFLKGGY EAFSASCELSKQ/INVSANCP NHFEGHYQYKSILCGMTTHKA DISSWFNEAIDFIDSIKNAGGRV FVHCQAGISRSATICLAYLMRT NRVKLDEAFEFVKQRSSIISPNF SFMGQLLQLESQVLAPHCSAEA GSPAMAVLDRGTSTTTVFNFV SIPDHSTNSALSYLQSLITTSSH
3516	33884	A	3553	3	669	GYEAFSASCELSKQSTPMGL SLPLSTSVPDSESGCSCSTPL YDQVSRCPCHREEVRTGKGME E*CQGGI*KVTCSEIYNGGDTGI* FIPQLSGLTEPSLQL*ALRK*TC WSCPGKWA*FPIYLSSSNRTEFT RYLKLTFPAESFCGYGHPWL *ASLMNVGYFWISG/GPVEILPF LYLGSAYHASRKDMLDALGIT ALINVSANCPNHFEGHYQYKS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3517	33885	A	3554	3	1377	WAVCATRVGGAVGGTAKKPR SPEPRVTLLSQSKSGFWFGAER PGGLAFPRKAPPCWPREQTKS TAGPITLGALRPAMVMEVGT DAGGLRALLGERAAQCLLLDC RSFFAFNAGHIAGSVNVRFTIV RRRAKGAMGLEHIVPNAELRG RLLAGAYHAVVLLDERSAG\LD GAKRDGTLALAAGRA/LCREA RAAQALLPSKGGYEA\FSASCP EL\CSKK\STPMGLS\LSLSTSV D\SAESG/CASSCSTP\LYD\QGG PVEILPFLYLGSA\YHA\SRKDML \DA\LGITALDPNVLSQIVPNHFE G\HF\QYKSIPVE\DNPKADISSW \FNE\AIDFIDSIGNAGRVRVHC QAGISRSAT\ICLAYLMRTNRVK LDEA\FEFVK\QRRSI/LSLPNFSF HGASLLQFESQ\VL\APHC\SCR GWGAPANAGLDRGTSTTTVFN FPVSIPVHSTNSALS\YLQSPITTS
3518	33886	A	3555	450	719	
3519	33887	A	3556	63	332	
3520	33888	A	3557	573	1309	WCKGEGEATEKGPRAEQASP LSEEAGAGRCPCPYRDAQPLL GSGHTLKRAIQDICYGPGHYQA RAAREVHPPGRKIGKQSLRRPC KLETDDHLSRSLRELD/SW*FGR KCAGAGLTERTQGRLLRRKRTL SSEGALPQVLELSAEASKRGS GKPRKFGKKNPGHGAPQPVF QSRQCLQRILGEHPRTTRPCLRN DNPGASSAPAQATFISPSEDFSS SSQARSPALSLSFREGLVMTHG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3521	33889	A	3558	1	1797	KDSAGPGPPVALLLPGAA/CLSP APGCRRAAPRWSSPGPRTAAG* RRMWCASASLA*SPCRPPRSRW WRDAGSGWTPHCPASAAWGA EQEPVRSWGPRASQSHCPGGLR APPPGSVRCSTQ*DCSSVRPAW SRS*GAC*QV*PRCPCRTPATG WAPPPQGRCGPTTAPGSTGPAG RASLCCPRRAHLP*WPQKLIC AHPGAKSLGLACQPHRG\KGTP IEG/PACGT*GGRRGSGCPGRPH TRRR*PPAPCGRRSAGSAHPA RPWPHGPGGQQRDPGPAYRGG QGGRSPASPSGRRLPASRAGRS RAARGTPGRPEPRSPQRRTGTV QPARCPWPPHRAAAGPPRRGS GAPAPLGRTRSFGTAGKAHPW PRRRPGHW*SAAAAPATGVPA CRAGSWVSAAPPAEGRPARAR RHPGRCPEASGPRGRRSAHGH GARAGSPQPGAPPCHLPGIPAR QPLGLPRRTRCFGGIAQRGAA RHCLLSRPSAKAKRNSSYREPG MGGWRSPQALGEYGKGSQAG SARLSGAASQGRRARHLRGKA PAWNPAPPPSPPPALGLPLRTQ REATRKPRREEARRPRPLRP GGANGSPGPRAARA
3522	33890	A	3559	1443	1871	PFVYTSSLGRPPSIS*QPFVSGSG CSCP*RSRPSGAWRA/RSASSPA PPP/KAP/SPRPGPRATAGASRRT AGPALCGRPR*GSRGRHLFSRP GGTRRRRRAAR/SAGLPAPGGS EPPKSGSGFPSSPYASSSGLIPGN RSPAAAGEL
3523	33891	A	3560	62	864	ALAESRGDLEAGPSSNTWEFW ELAGFSVLFLGNRRAALGLCEL PSLRAGVEFTAVQRLWSSAGA TWWSKLAVPLAGSAGRENPGS LLDGLLFTLENNLSRGQGAPST PPAARRAAR*DGGQSASSS\PAL ESPPERHRRALVSEQKPQEP/ RSSRRSCGTRLPLVFCSKVCR RAEPGGSVTRREGGAEREAEER KRGR*GEARR/RQGGRKSTRRK KQAIK GKRESQKRRGGRQGRG RAASPPL*EPRARQPRGSAAPSL LRGLSGCL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3524	33892	A	3561	3	2701	TGLWCRCPRSARRSVGRRPGT APAARPPRPAAQKQALGSRERV GTGPGRILRPGGWGCFPGPRGT EDADQRAARGPVGAGTQQHG RAVPRIGPQNEPDETLIP/GGPS PRGGELRGRSGARGLP*SLTGP APGPQRGGIG*SPSPGRASSKAG PWKRPGASRASLQRASSM/PAS QVDWGG/PGGSPRCNRCRERKP GTGPGWPPRLRSPGNLRPGVGG LGLALPARTAAAAAPRPRERWRS PGAPCLGAQ*PSL
3525	33893	A	3562	2	905	HEGFFFFILGCPFPNFPNPLVSV RKLGVKPAWGAA/RPRLPLAP MPSREGAARSREMRPRGIRRS PKEGLFHPEGSSQGSQNGADPQ RM*REPGSSKSSEPLRLLGVH QTA*RWETGETGPAIGGPAELD AVHVGL*CNRGFPSSKQRARRR ARVWPGPKKRPPARAARMARL ASDQRDFSVSARKAGDGRFPVIG IRSGGGAATGSSSRLSVSSSAVL RKPGRTTGAVPAGGSARKGPSL APMLGPGSVRSASSPSPGHNPG AGS*ERAGLGERPRQKPLAVPA AAIDFPQSPASRSNI
3526	33894	B	3563	149	283	
3527	33895	A	3564	269	452	AGILFLSSSQ*SNARRPTHGALL GDWGPRCSPSPYANRSPSSSLA RQCRTRGSTRDLRVRT

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3528	33896	A	3565	1	1877	MDPQLERQMETTQNLVDSYAA IVNKTWDLWVGVTPTIMHV MINNRHAPPHGSRGLLWHWGC RWPCWPGDAGQPYGTSILIEK KREKNQIDTIKNDKGDTTNPTE IQTIREYYKHLIYANKVENLKE IDKFLDTYTLPRLNQEEVESLN RSITGSKIEAIVNSLPTKKSPGPE GFTVEFYQRYKEELVFLKLF QSIEKEGILPKSFYKASIIIPKPG RDTTKENFRPISLMNIDAKILN KILANQIQQHKKLIHHDVGF PGMQGWFNTRKSINVIQHRNR TKDKNHMIISIDA EKAFDKIQP FMLKTLHKLIGDGYLKIIIRAIY DKPTANIMLNEQKLEAFPLKTG TRQGCPLSPLLFNIVLEVLA RAIRQEKKIKGSLQRVLSFLT TQRLRRSLQPSIPFSFIILVR AMFLLSGLVAVTLGSPSAGN QSTVLSSWSLVAQKEKAVPT LPLQSARPPHGS AVQA AV WPD TLYQSCCPLAENQTH FWMTGKC VLCWLCSLWSS GEGKGQAISRVLFGGVKRP YPFQGT LFLESPWNLAGS CPVKPALATRGQG*SSAYST EPVIVQRNAT*LKGKARVQ LGAKKESG
3529	33897	A	3566	770	949	IRYVLCGGALR\MELLTKQ G*SSAYSTEPVIVPRNAT* LKGKARVQLGAKKMMSQSV TPD
3530	33898	B	3567	507	1436	
3531	33899	A	3568	43	421	TSAHPGGEAVPS/LTTST TWSRSSLVTF TLMPPRG CSTGPPVTSPLCRMPRTT TMPASPVGSSIGQTSTTL PSCPQRQT*PSACTGSG* ASAVRCAPKSSSSPATSS SMTTTTPGRATTTTQTRC
3532	33900	A	3569	210	610	TRKSRRNG*IPRHIHSPK TKPGRS*ISE*ANNR\TEI VAIINSLPTKKSPGPDGFT AEFYQ\STRRS*TTT MPASPVGSSIGQTSTTL PSLAPRQT*PSACTGSGN HKS LTVKSFSQGCAGLP ASLTGPLWWRC

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3533	33901	A	3570	1	718	MENAGEREDPTVGNEGEVRLA GPVLRQTQDELSWEEDEANPTSY PKGADSYCHSDCQTIMDFSNNF AFSTPNTFALMNTYSCPQHPNS KQFQLPTFVKMGAEVSVFFIGL PHATPIVEHQNDLIAGSVRMQN QPKGSTLQCIILMPQRPPGQTLE DMDY Y Y S C F S D E K N L G T K K L S SFPWSHSKEVKATFKGRYPGSH ALNRHTTLPGTAWILLGGELA FLTVKDGSPALPSRPADGMRG RNKARVLSSLNLTA SWG*QAQ SSELRTSSPGKRMKQTQLLIQK EQILIVTRIARP*WIFPTSMHFLP QTHLLS*THTA/VPQHPNSKQFQ LPTFVKMGAEVSVFFIGLPHAT PIVEHQNDLIAGSVRMQNQPKG STLQCIILMPQRPPGQTLEDMD Y Y Y S C F S D E K N L G T K K L S S F P W SHSKEVKATFKGRYPGS\QPLT ATPHYLALPGFSF*VGNLHSSQ* RMEALWPCPPAQLMG
3534	33902	A	3571	719	1643	IQKRACSVSARRGLRTGRCCGT AGTTTTPASPVGSSIGQTSTTLP SCPQRQT*PSACTGSG*ASAVR CAPKSSSSPATSSSMTTTTPGRA TTTTTQTRCASTPPSPSTPGAAT AAGGPLVQGHGRHRVRVQSES HEGHPHGM RPQPHCSTSSTGM SAGPRVPGQVASSRMLTHTNG LRGPGGFKLPSHGVL DLQNGT GMPGGA VCCSTVRGPATGPAQ TGQRREPRPTRCPWSSVPLRR GKKDLARRQVESKPVWPGPWE GTPWSLLLGCNLPALSLCCIGTS ADRSFRKFYFFQTRIPLLLTDVL
3535	33903	A	3572	1	933	MPEPPP\PPWAPARPKPPRRAPP PAPRRPVPSTTQGLRSAGT/PAR DWQAAPPAALSSPEPHFNLIAS VQTMCPVGAPAGMQSGGPK PSGCRLVLWTPG**KGSIWGTA ASMTRRRWTMRRTAMSPGPQ RVPSAPKPSSAPCA*MEGKRSL LPA/TVPGCKKRYKVTWVAVG GPDPTREASLCQPSLLGTDQDL QSSPFHWHLRIRQKMRYRTPRP HAEQGMGEGSHCLMSEHHFEK TQRQFSPDYYPNPSSQLNVNGI KYHAKNGHRTQIRVRKPFKCR CGKSYKTAQGLRHHTINFHPPV SAEIIRKMQQ



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3536	33904	A	3573	2	316	CLSLPTPPWTPVRPEPPRRAPPP ALRRPVPSSTTQGLKSAGARRGT GRQ/PPPAAPDCVAQ\SSTVHLA ARATK*PSAHSVSSSPMGVLF LHGLDFPRMTRSQGLR
3537	33905	A	3574	3	1078	SLPPPPWAPVRPQPPL*VPPAP RCPVPSTTQGLRSAGA/PARDW QAAPPAAQVFTLLKNIMLPCL EKPGKFGLVIMREFNNHMWQ VELKMPVPSDLPKGTGKTLILP ECIQAPCMKSNNAPSSSSAPSP WML*A*A*WLCRYCRASCGISSI PTASPVTMACC*RYMRWGILPI SEPP\QTGFSPAGANQRGPLAAT LSGPGGEGQSAVARLTGEKKN HPGAQYANRLSPRVGRFINAAG TTGFPTGKRAGHKKEPIQSFIT RAARRSR*PSKASELGRKQRRP V/PVR*LLRSAQEEISAVGKTPG FCQGGNTGYQSQR\RKK*PANR PVKRLP*GGI*SLPGSKTYAVSV RCPDQKI
3538	33906	A	3575	2	969	VSTWETPQYRRPPSPS*RGSRQ PCSFSSPRDTPGENHWLSLPQR D*AGPPVRRALGAS*PHATRRP NRGGAS*PDLQPNHTRPFRPFPS KNPCFRFPEPLRAPTLVPGCKP HSPAASGRVPPTHGRGLGKSE G/SKEKPMRRTAAPTPIRFPKIT GT/PSTQTAADHALLGMRDQSL SGQSPGPKSPDADDQLQNRDH TETEQRISGRSSALAPESQLQQ GCAGIHFRGRFCKAPPLVCERL RGWPRGKRKGVCESAAQASP MSAAPCSTVPSPINHPRAEECG RTARDWQAAPLAALVRDPLDE ASWAPESGGDVENLYV
3539	33907	C	3576	1	444	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3540	33908	A	3577	227	2141	FCPVATTSASVTPVQTRCATRPT TAPSADCVSPRAAGGLPSGHCF RSEP*GKNWAPCPQPALTPSS/P SQTSDEEHPSENIPPGYEVVS LLEALNGPLTPSPAVPPLHVL/E RWPLRNAPFIWQ*WPPAPRQD DLAS*PPV*/PAAVRDSNSKRVS PNPLPKTLPCCMKRKMSIPAAS/ TETQLSQRPSVQHLGEECGVTP ESENLTSSSGAIDQSSCTGTPL SSTIPPQKALPAAAWPSLSCPW HPPRSALTSPPPCLAPTSPLALK RRERLSLPPSLPAGPPQKK/REG LPAESPDNFAGLPAGEQDAEA ALSSHYQPISHASKGDCKSGME QQGVCEREWGPATVQSDTPAA AVGLAAPGRQAVEGLSVCSLR PPCSSRCDGSGCSGQPTTVINIS LRRPTSPRTREDSEKPGQYPKG HTEARQMPGQKDKVAKRSRK V\*EEKENGKGPIRRQ*KQAAPR QLGQAGLTHSLKARV/RGGTG G/AAGVLG/GAWAWRAPHQW/ PGLIALPARGNEGLSTRASGCG GCTGSPSSASPPALRSISRALA AFPRGRARDLQPAMPEPPTPSV GSCAAPASPMASAPCSTA/LQS HRPPKG*GVRAHGAGLAGSST CSPSAGSTG*S*LGS*VWWGRG EPLCPAQGL
3541	33909	A	3578	26	1141	VLQLLRWRVWSLFFLMFRCVR SFFLLTQKPSWLHPVDPAPGLQ VELPASAPCARTPQPLGGRWD WAPWSRGRRSSGRLGLHRNLR RPGAQAWRAAGPGPCPAGRQL RPGEKSSAAPVGWHCWGTEYT FPSSRWPGC*APHCPGLAGPAG\ SPSAGPAKPTPTWNSSWPASAA RSPGSYS/PPLPPY\PLQAEAGS GLGQPRKGLLHL*DVPAEPVLA GPLASGSIPLAAPPAGRGLLAPG PCPGLDLRLL*QLPPSVFPTTP KTELVLGTPGHGQPHRGGHESS DSAGG/APTPRALRSGWDPSPPS SVCATPTSSGLSSTPQLPLHQRT SSSTASWSPGWGMGSC*VLVTS GAATVGC*RLPSISTS*SPI
3542	33910	B	3579	1	1234	
3543	33911	A	3580	443	865	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3544	33912	A	3581	2	1524	CLSLPSPRPHPWAPVQPEPPR RAPPAPRCVPST/TPGAEERG RTARDWQAAPPAAPKEETPNA SEYQKEQTPDTPPLRTVTLTVT VHGFIEVSETKNPPIDTGLQV VPKPLPRHTRGRVASSIHHIRF PVSPSARAG/APPGHTPCQGTW QIQSSPAQGGGAPN\PLYSAGSA LVSSLVLVLQFVDPFVRS\PEHS VIARPSARPWTWELGRRRTRP SQDPPRGPSGGPWPGRGRGPW RSKTDAAPGKA\ARSPAPGASC ELARRGASPGREGLAVGRAAG RGVASG/APSPAEGP\QAALGAP PGTHRSSSPSAQVPSSGARTESP W*P*LLASAGRPRPQPGYHAQE WRKRPRRPVTRRRRFTKAPAR SAGSFETSTFSAHDPGSRGHPW GPKPLPAGGDRTPPGAQGRGS A\SKAPARIHEPALRGHSGSRGG TPG\GSSALLCAKNCAPGDPGT AGVGR*SGTQLPPRAPLEPLSAP RRVRPVGSGRRREKVPRPGRPR
3545	33913	A	3582	1	3339	MSVRKDVEKLEPSDIVCGNVQ CYSCMETNLTVSQVKHEVTV GPREGATKPNRMKGKEGRSGS LLGEGDFFKDESVMSQGSKD GEKRRGKAQRWKWPMQGICR QLGVAKSMEGYQSRDQGGG GVSDKWPQVCAKKPEFYPTAQ VWANFSVTSCQSVTITQLCHGL RRLEISPARSNAMHLNPDPPGQ KQNLSPKVNDIITDISSSGSGA GKFQVISKSDISEVLLQQMDAG HSSKDDPNEYGGWKSPRPRC
3546	33914	B	3583	1	503	
3547	33915	A	3584	1	787	MIKWVSYQGCRDGLTYGWSCS VETVRWLPEVHAADTSLKISA CLSSFSSSYKAPSVAQAAPPSS PHKTSSLCTTSAPSRPSMRTTS APP*\SSAARPSI*NISS/SPESSAA TI*N*NMSSSPGLQLHDTQTRTS APPRVLNSAT/SQTTSAPPRAR TPVPPGSPAPRPSQKNSHTGSFV VFSSTT*DISGSTGSSHGPPAQR LS*T*KAAPAPPQGSISTTPDLN SGSTTS/SSRSSAPRPSLNNPFS* NSAVKKSAAEVNE

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3548	33916	A	3585	746	2018	THPQERGTWGNRQLFAVLPLPF YTSLETMSMGGCAVVAGQYQ KCPFFTIPSANFPWQKQEGMSG NPPRVRRHISLSRSCLTAVPMT IRRSWEGAPFVGAQDGCRLLP GRRALLHLGLAPLL/GPPPPPV SPPWPPCKATWVSAGGRCLY/G CPSAPAPRIAPPEFPAPPGFAPP AASSPSTRCSRGT*SCGPGRPGP LGPAWSA\GQRGQLAVPEPLQA VLGALGLLRPLGERR/PAQAGT FSPTAPGRGAPGASA*GGRISG HSSGDIPRRGPSRGHPPLLAQGS DAIRSTLH/ERLSTRTRPSFKIKT PSPHQRPQQPHASWTPSSGTL KPSTPCSSSSCAPRSGDGGG/EG HAGLPSQPAAGSQPAAPCQRPE AWAGGRGNRPGKPGAPQGPCF SLPRPQRSR*LPPARQKPPFFTL LSLFSF
3549	33917	A	3586	1	1911	TIYAVNLFPILPQGD\*PFTMVT MHWGEGNGQIFRGLLDTGSEL MLIPGDPKCHCGPPVKVGAYES QVINGVLAQVQLTVVPEGPQT HPVVISPVLCEIIGIDILGSWQNP HVGSLTGKVRATMVEKAKWK PLEQPLPRKIVSQQYRIRGEIA EISAKIKDLKYAGVVIPTTSPFK SPIWPVQKTDGSTKIPGTSTSVK FLGVQ*CGTCQDIPSKVKDKLL HLAPPTIKKEAQLVGLFGFWS QHHPHLGELLRPIYRVTRKAASF EWGPEHEKALQQVQAALQAAL PLGPYDPA/DQATVQLKLPVIN WVLASDPSSHKVVMHKLREEV GQMTMVFTPATLSSLPQHMM VSWGVSVDQLTEEEKTRAWLT DRSARYAGTTRKWWTP/HQSLS PATPVI/SQWA/HGHGGRGGGY AWAQQHGLALINADLATASAE CPICQQQRPKMSTRYGTP\GKV LQKAVCDLNQHPHYGTLS/PIAR IHRSRNQGEVEVAALTITPSDP LAKFLLPVPTTLRSTGLEVLVPE GGKLPPGDTTTIPLNRKSRLPPG HFGPLLPLSQAKKGVYPPKKK SLYQKHALSYM\SLFTA VPFTIA KTWNQPRFSPMVNWIENMWYI YTMEHYTAIKMSEIESFAAIWM QLEAI
3550	33918	C	3587	44	310	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3551	33919	C	3588	20	328	
3552	33920	C	3589	288	542	
3553	33921	A	3590	332	528	
3554	33922	A	3591	3	1717	NVCQSHRIPEHCYDSLNVCSS* GIPEYSCCDLNICPSHWTPHECY EGLNDCPSSNIPEHCCWGLNDC SSRSIPQHCFWGLHVCPLHRIPE HCSWVLSVSPSQRILEHCDENL NVCL*HRIPEHSRCCLNVCPSHR IPEHCCL/ESESLSLTQDSRTLRL L*GSECLSET*NSIILPPLFECLSH T*YSKTLHLGSECLSLT*DSRTS LLWSECSSYD/VENTTA/EGLSI CPSHRVPEHCYEGLNDCPSRRIP EHYRWGKNVFLSQRIPEHCYE GLHVRFSRGIPESHCCRLNVCP HRIPEYYYECLNICPSKRIPEYC CLVPSVYSSHRIPEHCY*VLNV PSQRIPEHSCGGLNFCPSHWIPE HRYEGLNVCLSHRIPEHCYEGL YDCPSHRIPEHSCGGLKVCPSHS IQEYCCWVLSVCPSHRIPEHCY HCLNVCPSHRIPEH*EDSRTL LSECPQRISEHCYEGLNVFP SHRIPEHCYEGLNDSPT HRIPEHCYEGLNDCHSHRIA EHCFSGLNLC LSHRILEHFRWGLHVCPSH GILEHCCWDLVSVSHS/SNSRSL*RV
3555	33923	A	3592	3	191	
3556	33924	B	3593	58	477	
3557	33925	A	3594	19	367	AIQSWCHHVLQAQPHVELLVP RFIEELGSLVHGH*PRHRLPPAH SHVLHHCQLQLGHTLRPHCIL QEHACG/RVRCLLQRQAGSPGG WCKRECLFLQE/VKPSVRICTVE MCTISIS
3558	33926	A	3595	55	555	NHFVAEAASCPPRCPFRLDAKK LVRSPSGLRMVPEHRAFGSPFG LEEPQWVPDKECRRCMQCDAK FDFLTRKHHCRRCGKCFCDRCC SQKVPLRRMCFVGPRAAVRGS APWVFPQGGGVFTD/NSSKCS* AEPSSS/QFGNSEKPETMT/VSS FQ*PEILVSGWRQPL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3559	33927	A	3596	182	696	PVFWIRNL*SMASRGLRRD*EHLKEAILAHS/LKAKRGGEAAEE ESEASRGWLVRFKGRRCLRNIE VQGETASAAGEAAAAGHPGDLA KITGAGGYTQQIFSVDETTLH WKKMPCRTFTATEEKISAYFKA SKDGLNLLGVNAPGTYVLRS NISVFLSEEMSSDKRLTEMGY
3560	33928	A	3597	74	2521	RERWAAGPVTCQVTTWPGAAT TRVTWPMTRPATPCAVHGCSC PRSHWSQKCGQPASRAV/SPHP PSTCGSSA/APGPTPKQEAPSAL WPLSGFPN*EPGPGQPGD\VE KATERMAAMKTEAGVPLVEV QDPVEVPSGR/PAGTCPAQPQH RTPAPCTADP/PALDTPTTTHPA PAPCPTAIAASWPAVWLPQPG Q*PRCPRLIATCEGQTPAGEEPQ AAATAGEGR/VKASVSPAPRGT PCCGIRWVARPAFSGHRSSPCP GSQGCWA/PSSGVPEASEPRPGE QEPIFRKREFNKEIKSL/PEPAGV PRPAWLLSAP*APSHAELPG*PP PLPCPAKRGQPGCG*APWRPLP RRPSSV/PPPAWSPP/QDLPLGSL EPAKPTNGG/PALCFPPPHSLQP QDASEKTQG/PEEAPPPCLVPR WPPDSNSR*HPRRSPMSPAPHS TPGRRHLTQIPNYKTHLFP*APA RGPSPGRACTSPCPRQGLWWR WPAARATSGALSHLHFPPTPA LPATFSLSSLQLPLHLPPHCVQR APAAAAGSRRRSRCPPSRRSPA CLTSPTAFMRSSPTS*PSRQPPW SSASTSSKRTSVSSWASSPSPSP TCSGTFPWA*RR*KAPASTCPR RPTGAACCVNWRSPKGPGRPP GSAPPTAAQRHPLCSRNPPTL PRTRPQSPAAPSTPTCQAPAGSSA LWSPSSTCLPAPAWVPVPPSPR
3561	33929	B	3598	1	588	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3562	33930	A	3599	357	1011	FLPLGELYAEGSRMIWSDGFW AGHLHSCSHPRSSSFPTCTYPL PPPPWVERQGTGRSGIP*PGKR TSSPFRVSPGSNTRECTPSIGLLD CIPSCISLSEKPQNDSSSESA*KIP ASSLVTSGLGFCCKNPQWSNTSC TSLSCDA/CPPWND/CCQMPVPC SWTFQPPEP*AK*TSVPYKLPSL WYSVSQRGKDSPSPAPPGPGR AQPASRAAAAPPAVGP/SDRAA DPLSPLQAPIWAPRHQHGSRPR/ VR*GLRWLHGALRVVVILEGG RAQ*PPWNDVFRCQCHALGLSS LQNHENKLLFLINYPVCGILCP NAGKTARAPPLRARVGAPSLPA ALLLLLLLWDR
3563	33931	A	3600	63	660	KPQVNSASCAQLAGPVSQRG KDSPSPAPPGPGR/CPACQPRC CCSSCCGTADRAAAPLSPLQAPI WAPATSM DARRVPVRVFALTE ART*GRAPWAFPGDVNPSLAPI P*TCSYTELIPVVSFPPSTSGN SPTACLD SGVQLASPSGSRTGA TGGAHSPARAPA/PPQPLGSR WDQGLRWLHGALRVVVILEGG RAQ
3564	33932	A	3601	202	515	FCKHEAAVSSGKAVGTRSQCR HSGPLRVAMKFPARSTRGATN KKAESRQPSSENSVTDSNSDSED ESGMNFLEKRALNIKQNKAML AKLMSELESFPGSFRGR*PRGCS AAPRSKRRSGHPPPAWT/CSPR AAERS/PE*RRT*RNSDM*S*FP ARSTRGATNKKAESRQPSNSV TDSNSDSEDESGMNFLEKRALN IKQNKAMLAKLMSELESFPGSF RGRHP
3565	33933	C	3602	40	186	
3566	33934	A	3603	1	3189	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3567	33935	A	3604	1	1821	MLKNFKKGFNGDYGVMTMPG KLRTLCEIDWPTLEVWGPSEGS LDRSLVSKVWHKVTGKSGHSD QFPYIDTWLPQWVRGQAAAVL VAKGQIVKEGSRSTHRGKSTPE VLFDPTSDDPLQEMAKVIPVVP SPYQGERLPTFESTVLVPPQDK HIPRPPRVDKRGGEASGETPPL AARLRPKTGIQMPLREQRYTGI DEDGHMAERRVFCQPFTSAD LLNWKNNTPSCTEKPQALIDLL QTIIQTHNPTWADCHQLLMFLF NTDERRRVLQAATKWLGHEAP ADYQNPQEYGKEESPAQFYER LCEAYHMYTPFDPDSPENQRM NMAVLSQSAEDIRRLQKQAG FAGMNTSQLLEIANQVFNVRD AVSHTGAEHSVVTGPVAPLSK KTIDIIGAMGVSAKQAFCLPRT CTPGTKDYRLVQDLRLVNQAT VTLHPTVPNPYILLGLLPAEDS WFTCLDLKDAFFSIRLAPERQK LFAFQWEDPESGVTTQYTW LPQGFKNSTIFGEALARDLQK FPTRDLGCVLLQYVDDLLLGH TAVGCAKRTDALLRHLEDCGY KVSKKKVAQICQQQVRYLGFTI RRGVRLGSEKQVICNLPEPKT
3568	33936	A	3605	1269	2463	GVQEESDLPTAVDSSRPDIRD QAWASVHWELVYHGSSFIN* GERGAGY/AVITWT/HVVEARS MPQGTSQAELIAFIRALELSE ALAKTVRQRCVSCRQHARQG PAVPPGIQAYGAAPFEDLQVDF TEMPKCGDIRKIVTGDVNTPAI LGVVSSSPSHIGNNITEDPELQ PILAGLSLSMYLVTVLRNLLIIL AVSSDPHLHTPMCFFLSNLCWA DIGFTLATVPKMIVDMQSHTRV ISYEGCLTRISFLVLFACIEDML LTVMAYDCFVAICRPLHYPVIV NPHLCVFFLLVYFLLSLLDSQL HSWIVLQFTIKNVEISNFVCDP SQLLKLACSDSVINSIFMYFHST MFGFLPISGILLSYYKIVPSILRIS SSDGKYKAFSTCGSHLAVVC
3569	33937	B	3606	1	1830	
3570	33938	B	3607	1	459	
3571	33939	B	3608	30	440	
3572	33940	A	3609	1	279	
3573	33941	A	3610	2	500	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3574	33942	A	3611	370	464	GHACGAERDHLQPHSPAHL LLLSV*AVW*PRYTVKMATAC Hqw
3575	33943	B	3612	1	780	
3576	33944	B	3613	1	610	
3577	33945	A	3614	1	1896	
3578	33946	A	3615	2	1418	
3579	33947	A	3616	314	720	GVQEESSDLPTAVDSSRPDIRD QAWASVHWELVYVHGSSFINT* GERGAGY/AVITWT/HVVEARS MPQGTSAQKAELIAFIRALELSE ALAKTVRQRCVSCRQHARQG PAVPPGIQAYGAAPFEDLQVDF TEMPKCG
3580	33948	A	3617	1	1029	
3581	33949	A	3618	1199	1758	KTLSFLSDQPLRARSCLPFSGKI RS/RALAKTVRQRCVSCRQHHA RQGPAPVPPGIQAYGAAAFEDLQ VDFTEMPECGGNKYLPVLGRT YSGWVETYPTRAEEKAREVTRV LLRDLIPRLELPFRIGSDNGPAF VADLLQKTATVLGITRKLHAAS RPQSSGKGIQNNRTGGVYTPCD IESHVILFRSGY
3582	33950	C	3619	499	831	
3583	33951	A	3620	410	1144	LSIQQYLTRP/PLLGFPPEADSW FTCLDLKDAFFPIRLAPERQKLF AFQWEDPESGWPPCWRALAAT ALLVQEANKLTLGQKLNIKASR AVVTLMNKGGHHWLTNATLT DYQTLLCENPRITIEVCNTLHPA TLLPVSKSPVKPGCVELDSIDS SRPDLWDQPWASVDWELYLD GSS/FLQPPRRGGGYA/VGDTSE LPPCWVCGIPALTQRLEKQHLP PSGHQGSCLKHLIWDLLLLTKKR TFSSMI
3584	33952	A	3621	1244	2690	
3585	33953	B	3622	1	1114	
3586	33954	B	3623	1	1863	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3587	33955	A	3624	3	2056	REALQGIQVRLKHLRTFGIIVPC QSPCNTLLLPFPKPRTKDYSQV QDLRLLHQATLTTFHPTVPNPTT LLGLLPKDSGFTCLDPKDAFF PIRLAPERQKLFAFQWEDPESG VTTQYTWGLPQGFKNSPTIFG EAWARDLQKFPSRDLGCVLLQ *VDDLLLGHTAVGCAKGTDA LHRHLEDCGCKVSKKKAQICR QQALAAATALRVQEANKLTLEQ NLNIKASRAVVTLMNTKGHHW LTNARLTQYQTLWCENPRITIE VCNSLHPATLLPVSESPVEPRC VEVLDTIDSSRPDLRGQPWASV DWELYVDGSSFFNPQGERGAG CAVITLDTVVEARSLSQATSAQ KAELIAFIRALELS/EGRKGLSPG RGKDK*WRKDGFGYRMGEYC ATAARSCSCTGCARNHPSTSGV TGKVVRPVFLHLAFVS\FAKT RQRCVTCRQHDAQQGPAVLPGI GAYGAAPFEGQLQVDFTEMPKC GGNKYVLVLVCTYSGWVEAYP TLTEKAREVTRVLLRDLIPRFRP PLRIGSDKGPAFLAALLQKTAK MGTRSDTQLAHIGTVLRDIHVS VCSDGPNLRTGLNVILGGVEW QSTPGNLVRRQGETGLHLHIYH WWQAVAIFPVYLGSSLHMKVG GRSFEQEEDTEHIPVSYDREGQ ECDTELKGQEGDELEAGSVVP
3588	33956	A	3625	491	964	RIQLCCRTRGTAQKKRMKVS SRCTPAPATRGTAWQPQAQQ APGVRA TEAPRL*AHDEVSQPA PAPPSTRHSRR*PVAGKEHLE AAVDKERHEVAQAVVTHVLEG QLEDVAPAHAAQI/GSPPWAGK RLRTNPAPRPCHPITLSRRLGP QNHTLLH
3589	33957	A	3626	131	351	NVGLKGTAGERIGGSGPPS*PPA GRNSGPAGRRPPAARAPTPGSA AR*PAPPGPPRPAGRGAAAAA GPAGGGA
3590	33958	A	3627	3	428	GEWEAPLLRHTRPGPA/PAPPA PSGASCAPCGGQTCRPRPLRQA PPSPITTGHARIWLQQRPRSSS ATPPKELP*GPTE\PHTGELWVA SGSCPSGTKLPEEGSGSNTYFSA VSAGDTQSNIIWNGPPANSNR AAEGPDC

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3591	33959	A	3628	2	425	YLASAAIFRNMSSVVCLVCFFF TSQICLQTDNAPYTVLSINENLS VLGSMFSNFLRSFLRSTKASAK PFIVTLRRSSFFSVSSSLASSSAM HSCSSSNSSFFNSSRTTSKSSST SSSFTPS/SESF/SS*VSSSRFHSYT PW
3592	33960	A	3629	81	594	LPAGFGPCGAWNQNQREKRPO SPGAESAA*SGGGQQRGGGAG AGGHGACASLGSE/PQGREPAL GAGGETALPSGSGSGRPPRPQR PRDSGPEALPSAAFWRKR*AS ASAPALTPVPDSVRGAQPGGG GAEPEGKAVRMRGASRPALSQ LSGREIGPCPQGRVVPASGTAC
3593	33961	A	3630	317	778	PMVWSCASAARLPEPGNGALL RTSSPRCSP/CPSAA*LTRLPT/P /PGDPSAAPSPGQRPAGLAGAG GAERSGAVEVGPREPGRDGAG S*SWI/AGPPGRLEAGSA/GVLR SPVAGWRPGTCAGRP/GKAGDL GPSAPPQAPHPPPSWSPLSPLA SPPTK
3594	33962	B	3631	1	1068	
3595	33963	A	3632	1	730	LALTARSSHPQRATVPKASVVA AASPTKFRHSGAALQWRNLGP VRAQGRRLSTAAPAAPSRRLFP PPPFRGGRRGGWSGSRGRRGA EPGRSHGAGGPGDDGRCGWGE GAGTSTPARPSRGPGR*PEIWTR GGGSAKSQG/PAGAPGCAGPR GASSFGRQRAVVLGPG/SSTA VCPLPRRTWNLRAPGGAPSYA QVAAAHQAPPGRPPWSPRGAR GSGRSRTFAPSTPAVVAGAASA VAPPRLRPSPPPAPAPAAAATA AERRGREEAPGRGCGSGRAEPP PLGPDGTQVSPLQRSSRVTEFC GGSGGHYARFWHSSPLRVGAS RSQS
3596	33964	A	3633	70	792	HGLVLDVRGPLSHAAPYWAPY PAATAAAARTAPLPPRSAIV*/S GPQPDFQELRKTWPSQC/GMAR REPLLPITAIPRVVETTP*GFA KQEPSVAGLRCRGSEAPA*LLH GVHRNVS/ETPGPEMGRPG*GN HRQRPQKQRGIPSSGLPGRCSG SRGPHSSPGQKPHGSTLSGRRG ADPRPRRRVYLSTPLLCEKKPH HDTILKRKPGMGDGNNPCPWN AGLYGQATRFAPLPLCPRRRHG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3597	33965	A	3634	2	339	WPCGWTGRGGCRQVRGRERRL GSGVRFQDVSRGRGRGRARA SWKPPHQGPGEPSGTRNRP*\ GGGAPAGIRGPELGTGNMKKL LLSLPIYYHLAGEKGQVAKIVRI PSADV
3598	33966	A	3635	31	438	MVTDVVTTRGGELGQRHVPPGE SSGLFCGQCGERETRDPSYRG/ WSRRFRFRALKNGAHWSPRLA VFGDLGADNPKA VPRLRRTQ QGM YDAVLH/VGNFSNYKARF SMPGDNEGLWYSWDLGPAHIIS FSTE VHFLLH
3599	33967	A	3636	1	422	LRRDTQQGM YDAVLHVGDFA YNLDQDNARVGDRFMRLIEPV AASLPYMTCPGNHEERYNFSN YKARFSMPGDNEGLWYSWDM GPAHIISFSTE VYFFLHYGRHLV QRQFRWLESDLQ/QSQ*EPGSP AVDHHYGAPAHVLTk
3600	33968	A	3640	1	319	FRREPPRGAAAAAALPRRNREN KRSKNRPPCCEGRGSARMKELE *PRPLQVLCLLP EMCSPRLADS YSPVSVRPISAPVRFLHRCPP FAEFPACRLLQHSRVPL
3601	33969	C	3641	214	363	
3602	33970	A	3642	1	3390	
3603	33971	A	3643	396	766	ERGLGRSEIPRKEVEHFMQLGS AVAGP*LLPLVGPAGECFHW LEPLLARIAEDKT VVVSPDIVTI DLNTFEFAKPVQGRVHSRGNF DWSLTFGWETLPHEKQRRKD ETYPKQPVGVID
3604	33972	A	3644	105	786	VGPEHCAGARWVTSPRSWP DAGQSVN*PDL*REKHPEG/G* KLQGGAKTAGNAVWKPLS K/PQGSSALSGHWDRLPAPDP GKMPNCDRAPPKIASRVSPQAC FPRPSPVPSAGPLRASTPADQA RRPARAARPPDALSKRGPCRI AKLHSGGGGGGGCREKAQE EGRTARSLTPPLPLAPRGPAGR RLPPAHTTQPPGRTGCPSPAGR DTSQLPYFLK
3605	33973	A	3645	313	546	RNKVGSRGRAKQLKFSGQSTR VHRSESR EEEEEKEEDEEEEE EEEYEKEEEEEEEEEERDLEF SKGPFLSS*SSQK/GTRVHRSE SREEEEEKEEDEEEEEEEEEYE KEEKEEEEEEEEEERDLEFSKGP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3606	33974	A	3646	3	1332	PLGPRRQQSECGAPTLTWPPGS NGLPGQQGASPLSASPGAGAGS GRGPAA\GGSGASCTPSRGPAS WSRSAAQVPRSSRWAGSASS* NAGSP/TPPTSQPPRA/PALCAA AGTLAPVEKGVEVPAGRGLSG APS**GKCPLPEAPSGGSAPLS* GGTESGAGAPEPRKATGRPGPR VPGGAGAA/RGLPAPTSGCAAP FPPRCPGLCVLRARPAGAAHP CPGPGWPG/PGPGAHQTLRAAL REPSPLASPLVSGRPGPRLVFNR VNG/AAGPLHVPILRGDPGDLH SGPRGECPLCVRSLAAGATAA\ DGGPAGEGRPRPVYTMERTAN PRLQNFVPH*PR/PSGGRKQFLA RITS\FPSGCWEGGAATRPTCRQ EKGMAALPTHCAWLGAHT*K CQHLDFACTFFPGPGCGDGRCH VQGPNSDLSPAHCAQGPATSP WGWQGGAPG
3607	33975	A	3647	102	788	GHCGGGTQCSWPAPWCQNLLP PSASPTLSTQRQLWHA WPGAH RNPV*QVPSLDS*ARAQLSVPA QGSPLC/ASLTASPWCSCSSLA VLLFGK*PFCVNLF*RASLMKS SSRARVLPRLPVRWPAVGRG WQGMERGQGA WPWLCGAVCS RA*SVHMTTLPSGPALCGIQR LQSSTQRRPESLHPLQLGWEEA QAGEGLPHPAVVHLPASPRLQL SQLHQSRPRLPPG
3608	33976	A	3648	114	1309	TNCSCLRDRPLDSSHVPWVEEA QSAHNNKEIVPQKGPWSSKHN QARGPPRESNTNKA VNCAGRS TKTQTPRGTS GT/TEGNT*VHTR HTKMSTTNTNTSSLDAPPTTQQ MRSTRERGTS\ PAPPSSALKNTY TLPLPTS\ SNDTTIYQLTVVPGP GPRTGELPRCHARVTPRVSGEE ALPPPPRSPENSNTHLRTPSQTR TPTRARPPL\ PETSPQQPWDP VGFFLRSSPVWAPSSQYYPWW SPSLSTNMTIPPES/SLLP LAY YTSLSHHGQRMPA/PADHA*A QSTPSAHRHRPQYVQWTTDPPS THGTFEESSGR/YPQHTVAVK KKTIGTPARDSHSFTPTPTTRM VKSLKTSTGTSTDLSRSSILKS PTSSIFTSLTIFSIWRDPDSMDLC V

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3609	33977	A	3649	3	1777	NVAGNPARSMAETQSRAGTAG PGPRTKQTPGTWGSQAGAPA HPPCYIQESRSGFSAPGRARNA\ PGAANPLCMAPGGAEGSGVIQ REVEGRPRSHSAPMLSLWSERP PSCVCLGPDGAADFPRRGRGPR PPLQDSPASPSAPRCSPARCSRL PL*PRPRDKDAPGTGGRPG/PPG TLPDSRLECSASRPCGEGCETL VQFPDRRGPGCGPLQGPGRGNP ARPQRLTRAAPGPTAPAAALVS SGGAAVPPRRTR*PLLAGAVEV ASPRPGSVQSLVPEHPGPFKELR NIVLSNSPEASYSAPAN*RPPPA EIRRREWQELRGGVLGGGLVFS FPPHSCVSGTGAWGLPTWRGV GSGIQGFFSVPP/SGRETSRGR TATAPWSSTPDCPSHWREPSAG SLRRG*GRRDAAPGAR*SRAPP TRPGSRASPG\GAGEAGVEGEL LGPRGQVVTG/PGRPTAPGIYRP GGRRKASAAGSRCATGGSRSSC PRRGSRSPPGWRWTRWGVP/GR RGTLARPA PGPGCPYRRRPGGA PRGAGGRPSTGCCSRSRQWLA GQLLPRPSMLGALPGLAPLQPP PAPPVPPPPPPPPMPLSAAALSS
3610	33978	A	3650	3	922	NVAGNPARSMAETQSRAGTAG PGPRTKQTPGTWGSQAGAPA HPPCYIQESRSGFSAPG\PRETHS GAANPLCMAPGGAEGSGVIQR E\GKAGPDPTARLCSAFGPSGRP PAC/RLGPDGAADFPRRGRGPR PPLQDSPASPSAPRCSPARCSRL PL*PRPRDKDAPGTGGRPGRLG HSLTRAWSAQHPGP/AGEGCET LVQFPDRRGPGCGPLQGPGRGN PARPQRLTRAAPAPDSAGSSG/ APPEGCCAPAKDEMTPAGRSC GGCLAETRICPVARP*APLEKSF PNVVNPGKKKAQPTLSPSNMT
3611	33979	A	3651	1	542	LPGAGHRRVLDAGGPRGAGLQ PQLPARQVGAVAEHLVSGPPG AGLA/GSGSGASGVGLGAAGW GSGPRGVRAEGEGAYS GPGQV FPVQGNVGNADAGTTGVGVPA GWWPPLPTRLQTLSPVWLCPC *AAASARSPPSGLSGE*TLFYTF SFLPPVIAASPPAGLASEARPC FPRFHSYP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3612	33980	A	3652	1	3063	MSLEVDRSVETMCSGDEILLPD LPKADVADPLWGPFVQNCLS LARSDSREQGLVLMESRNRE VPPGVSYSKDGAKSLKGDVP ASEVTSKDSTFSQFSPISSAEEC GDDEKIKVDDPLTRRTCQASG SAPQQDYDKLKAFFGENSSKT GLSPSGNMEKNKVVKREAEAN SINLSVYEPFKVRKAEDKLKEN SDNVLENRVLDGKLSSEKNDT CLPGTAPSKTKSSSKLSSCSSAI MALSAKKAASDSCKEPV
3613	33981	A	3653	1	847	MENKKVASPGWTCWECDRLF MQRDVYISHMRNEHGKQMKK HPCRQCDKSFSLSHSLCWHNRI KHKGIRQGPDSRRFTTKRLMLE KHVQLMHGIKDPDLKE/TDRCH P*GGNRNKRRQPRSPVPSRSWK NQFWSSGLPKEQSLNH*KS*KS MFLRFTSALVRGFTTENLLQFH EHIPQHKS DGSSYQCRECGLCY TSHVSLYMHFIVHKLKEPQTV FKQNGAGEDNQENKPSHEDD SPDGTVSDRKCKVCAKTFETEA ASNTHMRIHGMAFIKSKRMSSA EK

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3614	33982	A	3654	854	3009	VNSHSQLLQRE*NT*ESNLQGM *RTSSRRTTNHCSMK*KRIQTN GRTFHAHG*E/RVNIVKMAILPK KIQSDLTSHSISLEEMKKHNQG KEAAQRVLSQIDVAQKKLQDV SMKFRLFQKPANFEQRLQESK MILDEVKMHLPALETKSVEQE VVQSQLNHCVNLYKSLSEVKS EVEMVIKTGRQIVQKKQTENPK ELDERVTALKLHYNELGAKVT ERKQQLEKCLKLSRKM RKEMN VLTEWLAATDMELTKRSAVEG MPSNLDSEVAWGKATQKEIEK QKVHLKSITEVGEALKTVLGKK ETLVEDKLSLLNSNWIAVTSRA EEWLNLLLEYQKHMETFQDNV DHITKWIIQADTLLDESEKKKP QQKEDVLKRLKAELNDIRPKV DSTRDQAANLMANRGDHCRC LVEPQISELNHRFAAISHRIKTG KKPSWRRGVSNLGEMLVEVYL KALMSEDLRKGINQDEFSPYIY YFPITVFGSEGDLLL GKIRWIQG AYCLMIGQDVFM DTRLRV SAC FLKTKMKT VLVVFDQNE DNEG TVKELLQRGDNLQQRITDERKR EEIKIKQQLLQTKHNALKDLRS QRRKKALEISHQWYQYKRQAD DLLKCLDDIEKKLASLPEPRDE RKIKEIDRELQKKKEELNAVRR QAEGLSEDGAAMAVEPTQIQLS KRWREIESKFAQFRRLNFAQIV
3615	33983	A	3655	44	953	GVHNGVEELILVRRMQKSPGP GEMESGSLEKEPLGTQTGPVPS E/EYGIGLSQSISTKHPETSPKDS RIRENDVTADGRITTEDHITADP GTTEDSVTADPGTTEDNVTVDP GTTEGSVTADPATTKDYVSADP GTTKDSVTADPGTTENFVTADP GTTKDSITADPRTTENFVTADP GTTKHSITVDPGTTEDSVTADP GTTKHSITADPGTTEDSVTADP GTTEDETTKHGDTHLL*TTSVT AVKPTRLLTPMGHLLISLAATT TVVLFVGLGFIVKECFLPPLNPS TRVIYHPHVMDYSTP
3616	33984	A	3656	200	542	CSPPSTRPGPGP/SGTAWPGPRG TKRSSPSSSSSPSTTTSTSSSS SSSSSSSAPPRGFSSTRPSPLRR LLPPSSSSPSSSSSPSTTTSTSS SSSSSSASAGRRAGTRG



SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3617	33985	A	3657	132	853	EIDKKHRFLVSISLNSPSK*GEG DTPSRPHRARTGASVVPSPKFPT SLGRSALSRRHPHQTTPNTRPLR KAGAAAFNAPRAGPLGTAWPG PRGTRKSSPSSSSSPSTTSTTTT SSSSSSSSSSSAPPRGFSSTRPSP LRRLPPSSSSSSSPRSSTGDEA AAAAPVA/SRGAGPGA/SAAAA AAAASSSPG/SGAGAGPGTGGG SPGRAASLAGAGAGPAGCSAA PPRRLPRLERLARRRAC
3618	33986	A	3658	222	373	
3619	33987	A	3659	3	513	IPAALSCCCEWQALV*QILQDS SCCQSPRVPGHSCGKGTTL CVF SREWSLVSGSRC\SDGETSCTGR CCNAFLCYDLRFSWLFCTLDVR RGVA/GQGGRLGLDLGLSAVCI HQVWVMGSRCC*QLLAPGRVS RPRGRERGTHWSCWCRSPWM GSGWEAHSGAACLSGVFVP
3620	33988	A	3660	3	463	
3621	33989	A	3661	263	1020	SGLREPQLQMLEL*RKMSQLS LEG**SSHNM/V*RL*KKCS DYS YRDYILSWYGNLSRDEGRTLPS ALGRFWEIARQLHDRLSHVDV VRSC LQGCCEDLYSLISVT*KLP MPDMKNSQDLLCCT/PCLRNSD DEVRF LQTC SRVLVFCLLP SKD VQSLSLRIMLA EILT TKVLKPVV ELLSNP DYINQMLLAQLAYREQ MNEHHKRAYTYGPSYEDFIKLI NSNSDVEFLKQLRSVEGTVEKS GRRCVLVVFNN
3622	33990	A	3662	1	4314	
3623	33991	A	3663	2	492	ISAGVTGTSGLSAEATGIPGLSA GVTGKTGLSAGVTETIGLSAGL SARVTESTGLSAGVTGTIE*SAV VTETTRLSSGVTGTIGPSAEETG ATGLSAEVTGTTGSLAEVTGTT GLSAGVTGTIGSSAAGLSS/AP*I PSIPAFSGLVFILSCSTKFKAKE WLFFV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3624	33992	A	3664	1	959	AGLSLMGSI*ACHTGLESSLPV WILSAPSFPPHPVTSSPPISFHLG/ KLSLSH/CT*LGTVGALLPASSA THVHQA WPQWPATLM SHWNC YPREGEEIGYLPTSHPTPHYIPV LTTSA/HSAAPSHFGQSQA PIRL PPPPGAPSISLSPLPQNLCCKGYE RDPLPSRPPLRAVRSKKQKLGW RLAGPLSKSPDGINLPFLTSP LG CLDLSLPPGPGPTVLFVSLWH STKLCQHQS LTGLGGQPGQQG SSSPSAVFRGSRDVS GVIAQRQT SKEKELESGL/CVLTSGAPSPSSP HPPYRGTS LFLFYLCILEKGKM VNKRDLCC
3625	33993	A	3665	2	2180	CPQSLIAVEQRKPPPTGSQVLLQ PRAAQGTPLPTATPHGTSGDAQ KHLLQ TW*NTWP*KKPGPSPT/ VVRTQD TDQTTAQHPEGAKVQ GHDQFP GGSVHFGCRPAPSPR RQG/PLA WHGAGADGFPH/GSP FPSSLTRRCTATPSVLKTS PYRK PLLHSCPSN*MYP*PTRPPPSPTS PTQLSLRT/ANVATCPPLWPLPL RRHLSQWVPPNWEPGAASGSS REHGGIPAMPQPQCSAPSY/PPT EACLQSADGDQALSKHSADTN ASIRPKPRGSWCPPVTDEDAES DRGSGQQQSQRTPAEVLGK PQ VLERFLLPTQTKQEGSHDEETR HVNCREGSTEKQGRHPLPARP SPASSKRLL/TPGPSPPAAKRLL RQGLLRPAATPCSASGGYLGTR QRALGAGALGGCEPTPATGEES RPCHLR*PLSPSDSSSLCPLGFA K/PHQARNAGLLGASTGMKAT KWAGACRQRTAKTEAWASSW QRVSDTKP/GSTRQKNKDSGSH PQYQAFDLRLTITAGFSAAEAS ELEGSCAAATQISSLQVACHGT SRPHNHVVDDIMNSTAGPPSGV CGELENVMSGKPTQLVSEMLQ VRIPSPSGASFQQSLRMT*VSVN WTPPRPCI*NRPAAPAETSPAPR TA/STPNAS PQGPSARGFVEKW NGSHAARHPRYKPGTQ*PSGA ASTG/SPGTPPSPALPPCRASSLV
3626	33994	A	3666	3	426	
3627	33995	A	3667	3	266	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3628	33996	A	3668	2	1256	CHCGPP/VKVEAYGSQVLKGVLAQVQLTVGPVGPRTHPVVFVPECIIGIDMLSSRQNPHTGSLTRVWTIMVRKAKWKPLELPLPRKIVNQKYHIPEGIVEISATIKDLKDAGVVIPTTSPFNSPIWPVQKTDGSRMTVGYCKLNQVVTPIAAAVPDVVSLEQINTPPGTWYAAIDLANDFFPIPVHKAHQKQFAFRWQGRQYTFTVLPQGRWEINMTKIQGPSTSVKFLGVQWCGACQDIPSKVKDKLLHLVPPTTKK/EAQCLSGFRREHIPHLPIYRVSRKAANFEWSPEQEKALQQVQAAVQAAWPLGPYPADPMVLEVSVADRADWSCWQASI/GHKVGHAQQHSIIKWKWYIRDWARADPEGTTKGQGRRWQLAERQDSRDREAAIGERQETA VGKTARDGEAVCD
3629	33997	A	3669	349	718	AGPEGTTTAECP/I/CQQQRPILSLRYGTISWG/DQSATWWQVDYIRTLLSWKQWSASAKTTIHGLTKCLIHHDIPHSIAD*GTCFMAKEVWQWYCFSHSQDSRVQESRGIGSCTTHHHPCSFNP
3630	33998	A	3670	667	960	
3631	33999	A	3671	1	1371	
3632	34000	A	3672	1	942	MVGKAKWKPLELPLPRKIVNQKQHHIPEGIAEIAATIKDLKDAGVVIPTTSPFNSPIWPVQKTDGSRMTVDYCKLNQVVTPIAAAVPDVVSFLEEINTSLGTWYAAIDLANAFFSIPVHKVHQKPFASWQG/QQYTFTVLPQDYINSLAL*HNLIWRDLDFALLLQDITLVHYIDDIMLIGSNDHKVGGAQQHSIIKWKLYIHDQAQTGPEGTTTSVIAQWAHEQSGPGSRDGGYAWAQQHGLPLTKADLATTTAECPVCQQQRPTLSPRYGTIPSLPLTKALTLQLKKCSSGPMLEFTGLAMPFIILKQLD

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3633	34001	A	3673	1	1270	MGDPSRRRTCRAMQAKYPLVF KGCGVCWGS LDPRCRVASQV WPIPKRLSRGWPFHNAVGRQV SDWKSQDFADFGTTHQTGFS PAGANQRGPLAATLSGPGGEG QSAVARLTGEKKNHPGAQYAN RLSPRVGRFINAAGTTGFPTGK RAVSATQLMILCLLPGYLCNGK RKLSAIQGLLDNGSELSPENP KRHCGLPVKVGA YGGQKTDRS WRKTVDYCKLNQVVAPIVAAV PDV/VVSLLEQINTSPGTWYAAI DLTNAFFSIPVHKAHQKQFAFS WQGQYTFVLPQGRWEINMT KIQGPSTSVKFLGVQWCGACQ DIPSKVKDKLLHVPPTTKKEA QHLTGLFGFRKYIPYLGVLCC PIYQVTRKAASFQWRPEQEKAL QQVQAAMQAALPLGPYDPAGP MVLEIAVADTEAVWGH
3634	34002	A	3674	1	1978	LTIIYAVNLSLILPQGDLPWFTRV TVH*GKGNDQTFQELLDTGSEL TLIPGYPKRHCCPPVKVRVYGG QVINGVLAQV*LTVGPGPRTH PVVISPVPECIILSSWQNPFIGF LTGRARAIMVGKAKWKPLELT LPRKIVNKKQYHILGGTVEISAT IKDLKDTEAVTPPTSPFNPIWP VQKTDGSRMTVDYCKLNQV VTPIAAAVPDVVSLEQINTSPG TWFEWSPK\KALQQVQAAVQA ALPFGPYDPADPMVLEVSAD RDAIWSLWNAAGESQRRPLGF WSKALLSSADNYSFPERQLLAS YWALVETERLTVGHQVTLRPE LPIMNWVLSDPSSHKVSGAQQ RSIIKLK WYIHDWVRAGPEGTS KLHEEVAQMPMVSTPATLPSLS QPALMASGGVPYYQLTEEEKT RAWFTDGSARYAGTTQK WTA AALQPFSRTPLKDSCEGKSPHH PVIAQWAHEQSGHGGRDGGYL WAQQHGFPLTKADLAMATAE CPICQQQRPTLSPRYGTIPQGDQ PATWWQVDYMGPLPSWKGQR FVLTGIDTYCGYGSAYSARNAS AKTTIHGLTECLFHCLGIPHSIA SDRGTHFMDKEAPSASVLGLA LALLAPQLADSLLEDPVIVKGT DEAEYFQSVREEPDSGVKRKK MLKSGKNY

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3635	34003	A	3675	1	746	MGKIVQPEKAVSAKAGVCLKG CDCSEYKVQCEWQDTSPKYL IVLSFGEEPVTHLRWDLHWSY ALSKVISTICRRGKFSEFKAHTA PVRSDVFSADGQFLATASEDKS IKVWSMYRQRFLYSLYRHTHW VRCA\KFSPDGR LIVSCSEDKTI KIWDTTNKQCVNNFSDSVGFA NFVDL*PPSGTMP*PSAGSDQT VKVWDVRVNKLPTALPRMVY YGAKCHLWGCWSFTENSELSF QLFCTSIPIWF
3636	34004	A	3676	5	812	AAGSAGLPATPQPRARRVGR RLGPGARGAGGAGGAAGCRAL RATARAAGSQPGHSPGRTARS ARK*RLRRPESNKVRVCGPHSP APRTPSPSPGIQHAGKPRARRPL PPPGAGVGLGIVPGLGLGRAGA DVAGR VGP GAGVPGCCREGAR RPGSGRRAAPVLSPLC\ PGLQTA RAAAGPAPGA/GWP*VRRLEPA EALPSGMFM MRKSCSVALTSSL SSSPSSSSSSSSSSPSLTRPDVS PRVTAATGDMYRGSFSGLT LRTWPR
3637	34005	B	3677	1	1071	
3638	34006	A	3678	1	169	
3639	34007	A	3679	2	189	
3640	34008	A	3680	3	352	SKHNLKLTATSQPHRPMQLKP ACVPPVLSSPHMWGRSDTSEGP AH*PPA\A WRVCVVLGL*ASPP AKLQAQHQA GSTRPVDRQAPS VLTAPPLVWPFPQGICSKWGA QHGKRGQGH
3641	34009	A	3681	8585	9026	ERYKFFSAASPNILILLTFFKIVV RPLITKENLYLEILIRHSLLCV TLVCFCCPVFIGSCSSKRLTTA WTHSTGLCAAMSSPRPGGGGG KGGPAPWAGKRAGSGG*GEGR GKERVCGVQAPSVPTGVGMGG QRRAGVGGPRAAP
3642	34010	A	3682	2	484	
3643	34011	A	3683	1499	1793	IHSIESSPIHWIGGLRLMLCIVT RLNFEICLVKHFIKQCKVVEHT QQYEWHRVLHLKKK*QALNLK KNLQT\GDKKL*VSSLVHGETN SCRSKALAL
3644	34012	C	3684	1	1044	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3645	34013	A	3685	8504	8970	ERYKFFSAASPNILILLTFFKIVV RPLITKENLYLEILIRHSLLCVSL TLVCVFCCPVFIGSCSSKRLTTA WTHSTGLCAAMSSPRPGGGGG KGGPAPWAGKAGSGG*GEGR GKERVCGVQAPSVPTGVGMGG QRRAGGGEGKGALARRLGGG
3646	34014	B	3686	I	2178	
3647	34015	A	3687	I	2424	MLTVIHSEMQAARKVSDGNEELI GKWNLLGIERPWGPRRDWSGL HGP GPGTPTARPRPLRDSSQNT WRLQLKPRLKGGPGAQNARM NEAWQPLPRFQRIYEKTWVPW QKHDAGAEPSTRTSTRAVPRGS MELEPPHRAVRRVPQFSRF QNGRSTSILHPVPGKAAGTQLK PVRADLVAALYKATGAELPKA LGAHPLHQCPDVTDELLEKIA SRSQNIIEINISDCRSMDSNGVC VLAFKCPGLLRYTAYRCKQLS DTSIIAVASHCPLLQKVHVGNQ DKLTDEGLKQDNQPQCIENFE SRMHAQGRTLVQERPKKTVNFI TVCLLGPVQAGSKGQGRVNG KVLSTANLRRISVDGKSEKSV KDAEKAFDKIQPFMLKILNEL GIDGMYLKIVRAIYDKPIANIIL NEQKLPWVVDGTGRCGAGGS VTGEARAMQGPQWGKGRRLRH GGLQVPIPALQGGG*GPARN*A QQLLAQRIKYL*IQLTRDVKDL FKEN*KPLLKEIKENTKKWKNI PCLWI*RINIVKIAL/PKVIYRFS AITIKLPLTFFTKLEKKTTLNFI WNQKRACIAKTILGKKNKDGG IMLPDFKQYYKPTVTKRAWYW YQNRIDQWNRTETSEITPHIY NHLIFDKPDKSKQWGKDSLLN KWCWENWPAIYRKLRLDPFLT PYTKINSRWIKDLNVRCTTVKI

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3648	34016	A	3688	453	1508	KAPQAPNINSYCLQVECCQKG ISVDLSTGMTSTGVVP/HYNEQ VAGEKEEETNSVATLSYSSVDE TQVRSLYVSCKSSGKFISSVHSR ESQHSRSQRVTVLQTNPNPVFE SPNLAAVEICRDASRETYLVPSS CKSICKNYNDLQIAGGQVMAIN SVTTDFPSESSFYGPLLKSSEIP LPMEDSISTQPSDFPQKPIQRY SYWRITSIKESSLQMQNPISNA VLNEYLEQKVVELYKQYIMDT VFHDSSPTQILASELIMTSVDQI SLQVSREKNLETSKARDIVFSRL LQLMSTEITEISTPSLHISQYSNV NP*RGCFHYCLAFT*T*SNLTSI YSENVQEGLVKGN
3649	34017	C	3689	57	230	
3650	34018	A	3690	2	123	WWKV*KKYSGFKVFL*HQH** PRRPLQSLFS*MPWKRIAK
3651	34019	A	3691	94	360	LMSLLTSPHQPPPPASAPSA VPNGPQSPKQKQKEPLSHRFNEF MTSKPKIHCFRSLKRGVSSAPE SCLSGVLWLHVWFCITNFVCE
3652	34020	A	3692	1	2037	
3653	34021	A	3693	2	1079	NLSKKYQPKKNSKEEEEYKYTS CKAFISNLNEMNDYAGQHEVIS ENMASQIIVDLARYVQELKQER KSENDHRVSGASRRAPLPGPFR RLRPFTPDPVGEEAAANQAE\Q *YPSLKWNSKGKTNGTRNGTK CGKEHSPTLHQSRRQGTVIQSAN RPSVA*SYRAPLHPSPH*KLAP* VPAFSSSRVFPMLSSFSL/YISTD DQEGLYSLYFHKCLGKELPSDK FTFSLDDSQLVIEAYKSGFEPPG DIEFEDYTQPMKRTVSDNSLSN SRGEGKPDCLKFGGKSKGKLWP FIKKNKSPKQKQKEPLSHRFNEF MTSKPKIHCFRSLKRGIQPPDG NEKQDDTMASSTFSLSLDYEM PVIEKAE
3654	34022	A	3694	1	215	MAQDYGAMGDLVLLGLGLGL ALAVIVLAVVLSRHQAP/C*PPA FAHAAVAHASKVFSNIVRERV KTQEAERA
3655	34023	A	3695	1	208	MAQDYGAMGDLVLLGLGLGA\ ALAVIVLAVGLSRHQAP/C*PPA FAHAAVAADSKVCSDIGQRTC RDATPT

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3656	34024	A	3696	1	164	MRYRYIPVRMAEVRT/SDETKC W*ECGATGTFIHCWLANIQHT LSRLFTCLCSC
3657	34025	A	3697	146	659	LAGPRCTTSLTPSEGG/LPPDLSL GYTVHPPDSQGHTGPLPAREGT GSHRFGVE/VRQRRWERGEAPL LQLSPPAGRPPRRPHPCRPHLP SAAISEAATARGPRNRSQAAAA AADPDNLRVARG/PRSTRSSAV DAGPPP\SASPGFP*SSSQQRPS EKTGSEVYSAYIPANC
3658	34026	A	3698	32	376	
3659	34027	A	3699	1	2148	MALSPWTPGLGAGEKLVQAAA VSTGPSLELCTLPSTLGSSVAVE ALEQLFVVECVRDARRNLNFEI NTIKMRITRTENEIELKKKITD LTKYNEALGEKQEELARKHAR FVLSLNQTMekkATTtVYINET YTKINLKREDIALQKKCIQEAE LMEKERAeyLIRKQELTAQINE FENTREVKRMETyQKK/QRIG*1 TN*NvKNKRNSyFSAAVLSDH NLEIARLHESIRyWEQEVSELK KDLAILEAKLCFFTDNKEKLDD ISNDEKNEFLNKiQLVETLHA ARMEYKDLREKMKTLARQYKI VLSEEEKAFLOKQKIHDENQKQ LTFISQKEYFLSQKRVDIKNME EGLITLQELQQVILSFMSVYSK PNLSHSRGLTCCSFPLYLQMMT PFPCVITQWKMACLRKKHARW TAKIKAEIQAITEKIQNAEVRRI ELNETSFRQQEISGFVAQIEKL TTELKEEEKAFVNKEKMLMKE LSKYEEIFVKETQINKEKEEELV EYLPQLQVAEQEYKEKRRKLE ELSNIITEIIWGFLFEQEDVKQEL QQLRDQESKKNKDHfETLKNL ENGfYINDQKADLLLLLENKKLK EYILYLKNNIEKYREGQEALMH TSSDLSRQLIAQEGLLQVEEQGI QWWIRQSPKASQVGKPTVQPS VCGQRPKSPCQTtGVNPRVQK LKNLESNVRGQEASSTGERGIL



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3660	34028	A	3700	1	2658	MQAPYRCQRTGWLQQRKRLKAGLWGLESSWSLGLGQAQQELTSAPGQFRLPPPPQAPERPTAGGSASLGPPLP/PGKLSEVPEPSRPGRPRRPSTWAPPGGP/GASALPVVPG/HRGARTRGASTRGAS/EAGPHLPIPVTSNAPGHAGGWGAPSHQNHASPC TGRGPQPAGELRQA/GEQFPNSWGRRGSCRTC SVVLGHTEP RPEPAHVLVRIGNPGSPVGAAWGNEA/GHPRAPGAQRGG*RSFGLRE
3661	34029	A	3701	31	556	
3662	34030	A	3702	3	1394	RKKELQHKIDEMEEKEQELQAKIEALQADNDFTNERLTALQENQTRAKESDFSDTLSPSKEKSSDDTTDAQMDEQDLNEPLAKVSL LKDDLQGAQSEIEAKQEIQLRKELIEAQELARTSKQKCFELQALL EERKAYRNQVEESTKQIQV LQA\QWQRFHIDTENLREQKD\ NEIASARDELHSARDEMWL VH QAAAKVASERDTDIASLQEELK KVR AELERWRKAASEYEKEVT SLQNSFQLRCQQCEDQQREEAS RLQGELEKLRKEWNALETECH SLKRENVLLSSELQRQEKELHN SQKQSLELTSDLSILQMSRKELE NQVGS LKEQH LRDSADLKTLLS KAENQAKDVQKEYEKTQTVLS ELK LKFEMTEQEKQSITDELKQ CKNNL KLLREKGNNPSILQPVP ARIHRPIPGFPDMVIRSIVERKK PWPWMPMLAALVQVTAIVLY VPGLARASP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3663	34031	A	3703	1	1133	LEEKEQELQAKIEALQADNDFT NERLTALQEHLSSKSGGDCTFI HQFIECQKKLIVEGHLTKAVEE TKLSKENQTRAKESDFSIDAVSP GKD*GSDDSTDAQMDEHDLNE PLVKVSLLKALLEDYRGGYRN QVEESTKHIQVLQAQLHRLHID TENLREEKDSEITSTRDELLNAR DEILALHQAANKVASERDTDIA SLQEELKKVRAELERWRKAAS EYEKEITSLQNSFQLRCQQCED QQRREATRLQGDHTDEAADLP LSRHSVSDPGVSCTQEEIQEAR GLTLLCFSKIKCSQKQSELTSD LSILQMSRKELNQVGSLEKEQH LRDSADLKTLLSKAENQAKDV QKEVKRKDIMSPIMVGLKAKS
3664	34032	A	3704	1	540	
3665	34033	A	3705	1	280	
3666	34034	A	3706	2	416	
3667	34035	A	3707	309	908	LPSRGAGLGTCTRPCLSLPLLP WAPVLPEPPRRVPPAPRRPVG STTQGLRSASTRR/VDWQAAPP AALVWDPLGEASWAP/GVWCA AIDLANAFFSIPVHKACQKQFA FSGQGQQYTFTVIPQRYISFPAL CHNLI/RRDIDCFSLLVHFAWK EKWSDVRLGTDSWAAASGLA GWSGTWKKHDWKTSPVLIHEQ KFCFLFP
3668	34036	A	3708	1	2973	
3669	34037	B	3709	1	1053	
3670	34038	A	3710	1	1178	
3671	34039	A	3711	3	247	DCLRVLWCPPV*F/QRSPSLQQP L/RPGFEPLVGRHLMRPARSWR PQPSSASAGLPSSPFRDGGCHRRR ASWALGGRAAEGEVAI

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3672	34040	A	3712	137	2176	LKNPPQTHPRRGHLLLSVWGH ILRACGAWQEAKPKAKWPQIP EEKEEGQAPRACTLPGCWRLL RRGQEEKEENWVPPACTLSGC WRLEAVRQQQREGDGDGFGAAS CSDLAFRCASSQNPRSLPEVASS PERRRRQPSRAPLGWALKEPGS ERSPPLLSCVEALQPPFLLGLGS GAFCLTRGEKGSPPDQDPFCLHS PWMLEAGGSDAATARGDFGA ASYSDLAFRCASSQSPRSPEPVA SISERRRRQPSRGFQILRSSGAFL LDREHVCLASSATTGLGSPRP SWSHQVASNKGLKPGLRGCWS DGERGTTLEDTRVLLSNPLLLR KGGKRVSTSRLMQLCSVVEKY CPWFLDQGTMNIEIWEKVARA LKKAYRDGAEDIPINIWSVWAL VHPTLEPFHTDHDEESEESEGE YNEVTKEVTEQFCLPAKAAKE GGNPSLTSPQQLTTETEAEIQLI EKQVHKAQINRIDPEKTLDLLIF PTQHSPTGGVVQEQLDVEWLF LPHSNSWTLTPYLDQIATLIGN GRTQIVKLHGYDPGKIIVPLTK AQIQQAFINTLNWQTHLADFM GVLHNNHFPKTKLFQFLKLTNWI LPRIKFKPIECSENVFTGRSSN GKASYSRSKNKVFQTSYTSQA KAELVAVIEVLTA FEMPVNVIS DSAYMAHSTQLIE/TAQL*FHTD
3673	34041	C	3713	1	784	
3674	34042	A	3714	87	447	AVQRRSGVGPA CLSCGSANPGP PPGTSPGAGAAPGGGRWARAK SGPESPPGT/GPPQPA*APQ/AAG PKTRAGVSFLSPPLASSPGHANF GPDSFLGDGVMRQA*RSENKQ DPA/GTPGTWVR

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3675	34043	A	3715	3	1435	RGPSGPRTVSPSPAGASSVGGPP VQA WPCSLCVGSLEPRGSIGGP PKGLQLWGPRASWFLGDYACP LLASAPVLAACKTLCQTPAVPA SLG*RPLVAVKTHVAAQPFRLI KHLAAVLADKSAPGLRPVCGT A/GFAGYLCLPHSLSPDGI EPV DVSTLDSA EYCQLGLGGICRGP GR*EGGHGY/RGSEKPHSTYPSS PSLSG/EPENRG/DPGVAQEP*P PPREQAGPFSPFVILEAAPFSAG ACFPGSEAPGGSSPPNNGSAVGL WRGRCPPGPRSL*RIAAAWPEK RCLDSWKG/RRDGAARGVGTA ATFSPPFASRLVLPGEASLGTPG VVFLLRAGEPSASGFPGPAWRE STAGASGGGCCGHGPCSGLRA AGLPSGAGSW/RGDCCHLGMG EDPLG/PW*SSGTPASARGSQEV PAT*GRAGGRAARHPQGARLPS GPPG/EPGSPGFWHRKESQSTLT FLGAQGS SPLADLGLSGASAG
3676	34044	A	3716	1	756	MNDAGNHSHQTNTRTGNQTP HALIHKRKLINENTWTQEGEHH TLEPFGGTTDRIVSPSHTRSPDM AIA NFQSSGCSVVPDITPRPQYQ CRSRHSVLLTSNLTVPMQSCVK PPYMLLVGNIKIWMNNQTVRCI NCHVYTCITSHFDSRKSVMVLV AREGIWILVTLPRPWESSLSIRLI NEVLQRILKRSKRFVFTLIAVIM GLITVTALATTAGMALHQS VQ TAHFANDWQANSNQMWN SQQ GIDQ*EHMDTGRGTSHTGAFW WNNRQNSFPFPYSQSRHGNSQF PKFWVFCCPRYHPSPSVQCRSR HSVLLTSNLTVPMQSCVKPPY MLLVGNIKIWMNNQTVRCINC HVYTCITSHFDSRKSVMVLVLAR EGIWILVTLPRPWESSLSIRLINE VLQRILKRSKRFVFTLIAVIMGL ITVTALATTAGMALHQS VQTA HFANDWQANSNQMWN SQQGI DQILAAI
3677	34045	A	3717	3	131	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3678	34046	A	3718	2	424	CGRKSRGTALPTGSSPQSGPAA PGHSAASALHPTP/SPPPHPL\PP AATGDIDGNRYPATPMTKYPS ASARRPVHRPTCSGGGSHTNHA ESLPPLTLEEADTHPPGGSQ*T RPPHCIRTGSLPPPREAPYTRR ERRRHPP
3679	34047	A	3719	1	418	
3680	34048	B	3720	361	1371	
3681	34049	A	3721	1	469	PGTCRGSTGQP*EACWRSP*SV RNTRCPVREEPASPGWSSCLTS PSARGWWACS*RLPSSSCPGST AGSSSGTLCREAAPCHR*AACS DGKPPGMPRSTRRLGPSGARSG SARRCPGDPESLRGHAPARA ATQAPDPSTQSSASSATPRAPPL L
3682	34050	A	3722	117	871	GPOSSAGNAGPQRRRTTLGVPR TWHGPAA*AGNSCHISFYSSR FQPFLGVTSVLRGSSVSVSIGPD HLGQPRSSQEPSRPENAAQM* TGCPGYAGCTVA*MKGRAELQ GLRTIAAQPGQWLTLLPRCPST RRLGPSGARSGSARRCPGDDP ESLRGHAPARAATQAPDPSTQS SASSATPRAPPLGLCGGGC*G DRRSQQGTE*A/VAVPGMLGGP SPFSQPEHPSAFAQPSSCLPLGL DFKLLIPSQ
3683	34051	A	3723	110	1017	EAANEPKHLHLRHAAGLGQHR QAPRPQGRPFARPHQGQDQTD RLHHLQGGGRHGARGHLHQA GAGQSAPAPKGAHVQGPCGCH ESTGPVEH*SHGERPKHRCPRP AL*EHGHENPHK*SSPHDQR*Q TADPEGDN*SQCCPTAN*IPLRK LWLRG*DLCGRSHGQQ*PHQG W/HLDAQLLTPASSSTLCPTPLQ QPLHQLRHAALAHQHRQSPAA RT\PLARPHQGQDQPDRLHHLR GGGRHGARGHLHQAAGAGESAP APKGAHVQLVSKQLGGVAAEA HVDSSGLWVSPGPRHN*YKSKS SRL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3684	34052	A	3724	3	1092	LVEPGRLLLEAQGF DKNKR*RRR GRVCGRGGEAPAGQGQGP *NKGKEEV*NSSE\EESEVSLP KTSREQEIPSLACEFKGDHLKV VTDSQLQDDASGQNESEMF DV PLTSLTISNEESLTCNTEPPKEG GEARPCVGDSASTPKVHPGDN VGTKVETPKNFTEVEENMSVQ GGLSESAPOSNFSYTQPAMENI QVRETQNSKEDKQGLVCSSEVP QNVGLQSSCPAKHGFQTPRVK KLYPQLPAEIAAGEAPALVAVKP LLRSERLYPELPSQLELVPTKE QLKILEPGSWLENVESYLEEFD SMAHQDRHEFYELLLNYSRCR KQLLLAEALLTLTSDCQNAKS RLWQFKEEQMSVQVF
3685	34053	A	3725	182	771	QTALSCARHGRSAAFVWRPNR APVWRSGRGVAAGSALVHST ALPSRRQPPERRSEHDCLRCRA LCGTPKQGLSY/TGP/WGLGKV PEAAAAALDLGVH*PLFHLPLLD SESRKPGRGLAAPPMPARWGL SCLEQVGHTRKEGGGQGCRPW PPCWSPVSGTRGGPITTLRRGS AALHVRASYCLMENPPEPPSIV
3686	34054	C	3726	769	981	
3687	34055	C	3727	70	197	
3688	34056	A	3728	1	158	LGSVSSFASCTLGAPGYSPTAP VAL*SVGPWGRIVKVP GHPGS WEMHFIISM
3689	34057	A	3729	229	496	VTGLQNLVLSIVTESGKTHLLSF SSHGLEEIIISQLPGCSGTLTVRP QGPT/GSQGNRGCDRVAQGSQ GAGGERGDRSQAPVPAPARDS
3690	34058	A	3730	167	769	FLTRETGDPTGRSSSHGKHPVA VFP**PTRPP*TIWEITHGCRR AGRCPGTGPDPG/SGRGGPRCW PSGHLAATGGLGPSCGRLGAN RGEAGPAGFTVCSPLSGWRTPY THHFPASRMSWHLDYASPRTY RSQGNRGCEVAQGSQGAGGE RGAGSQVPVPAPARNKDPKR QKPRPPLLSSPTARLIGLFPRAD SCRSC
3691	34059	A	3731	234	543	ALDQVASLPIMVPASKQNTATS CCRLGYNSFDLGPAAATIFFPSP AMVISQLPGCPGTLTMRPQGPT /GSQGNSGCEVAQGSQGAGD ESGDGSQVPVPAPARD

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3692	34060	A	3732	1	3695	MGKRSFERVLVDKCDSGRSCL RKQHENECAFIQILDTQSLMIPG QRGSFRLADSQHTDRVLCTLM AEKWRKALS YTRNSFRAQIRL RKTRFQKGCMICKKSRVLPY QAAYVSQHGSAQPSHLPVSG SLSSTGDDEEEEEIVHMGNAIM SFYSALIDLLGRCAPEMHLIQTG KGEAIRIRSILRSLVPTEDLVGII SIPLKLPSLNKDGSVSEPDMAA NFCPDHKAPMVLFLDRVYGIK DQTFLHLLEVG
3693	34061	A	3733	1	2523	MKQFLLYLDESNA LGKKFIIQDI DDTHVFVIAELVNVLQERCHTR LGYTEFLVAWRVTFGLCVEAV TLHLKYQILIRGLLEMMSFSDA DILKQLPVTVPGLFPASLSPSSL LGNSPPSWLRHNSSEKVS AVSS PSATKTLSTGIGKLDPGHKEMA EESELLKNKMQAPPLSRCPE SQ KCQHQRLRLHHWKPSVRHQVKR RSPAVLRSAMPADCPAVLEAT TATHPEKGTALSKHLPSSDSMS LKVDVEALENSPGATYIWKGG KVTRDSQPKEQGK GDLKKKKK GKLPKNYDPKLTDPERWLPM QEC SFYQGRKKGKKKQDMGK GTQGATAGASSELDARKTVSSP PTSPRPGSAATLSASTSNIIPRH QRPAGAPATKKKQQQKKKKG GKGFPVLREITVVKVDTLVVFQ ILEERLSVFHIQYDTSYPFSTVDI EDHECAVWLLLRKSKSDDKTT RLEAVREMSETHHWHDAEKAF DKIQPFMLKTLNKFVGDGTY LKIIRAIYDKPTANIILNGQKLE AFPLKTGTRQGCPLSPLLFNTV LEVLAIRAIRQEKEIKGIQLGKEE VKLSLFAGDIIVYIENSIVSAPKL LKLISNFSKVSEYKINVQKSQAF LYTNNRHTE SQIMSKLPFTIATK RIKYLGIQLTRDVKDLFKENYK PLLNEIKEDTNEWKNIPCSWVG RINIMKMAILPKVIYRFNAISIKL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3694	34062	A	3734	1	6208	MILDQAFKYITELKRQNDLELL NNGNNEQAEEIKLRKQLEEIQ KENGRIYIELLKANDICLYDDPTI HWKGNLKNKSVSVVIPSDQVQ KKIIVYSNGNQPGGNSQGTAVQ GITFNVSHNLQQTANVVPVQ RTCNLVTPVSISGVYPSENKPW HQTTVPALATNQPVPLCLPAAI SAQSILELPTSESESNVLGATSG SLIAVSIESEPHQHSLHTCLND QNSSENKNGQENPKVLKKMTP CVTNIPHSSSATA
3695	34063	A	3735	164	415	EYWGWLRRINIILTGNCRLRG/ WPSLLPQAEEESLPQTKVERLK AAWIEEGILPLLGMRLFLAR KVHQSLQAQCPQLHQGPPT
3696	34064	A	3736	1	886	MLDLPWFNVEEGIQLREIGML EWLSHFRPTRLSREDPEDIPFTN TLPNKFVRGVPASLKSSFIGLLC MPDLTKTVGSRWMTVDYHKL NQVTPIAAAAPDVVSLLEQIN TSPGTWYAAIDLANAIFSIPVHK VKDKLLHLAPPTTKKEAQCLV GLFGFWRQHFLHLGVSLWVIY RVTLKAASFEGWSEQEALQQ AG/QAAVQAALPLGP/HKDPAD PMVLEVSADRDVWSLWQA PIGESQQRPLGFWSKALPSYAD NYSPPERQFLAYYWALVETERL TMG/HQVTT*PELRIM
3697	34065	A	3737	1	1815	
3698	34066	A	3738	1	988	MPAEFFQRCSVIMVQLPWKEA HVERPHGERDYTPDLQPDWWE KFPGLRRALRPVVKTLVQLEY RQAEKCEKRDWPSLPDYIFLLC WMLPALEYRTPSSSVLELRLAL RAPQPADSLLWDLVIVPITSLKS WQTPRGEVEGVTHEEICASLKS LAVALLSMSDLTVGTPVTQPQT LNTMGIIGSRGGRGQVAALNR QRQVPELIIGIDILSSWQNPFIGS LNGRGYINSLALCHNLIRRLD RFLLPQDITLVHYIDHIMRLDSV KDKWLHLAPPTTKKEAQCLVG L/FGFWRQHISHLETAL/RPVTG LWWKLNILWAIKSPCNLNCLS
3699	34067	A	3739	26	318	RTAWMQYSPLHSA YGRVPTVT SSH*LLPLRSHPRDSRPAPCP/RA GPARNRQSSA/SRNRSPRRRNPE ASRGRPPGRGVASPA SPPTPRE TRTAATRRP



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3700	34068	A	3740	425	588	IWSVPFAPWRRRGHAGSRCRR SRSR/TPRRNELSTAALGAARG HARIWREAGNWP
3701	34069	B	3741	465	1623	
3702	34070	A	3742	667	960	
3703	34071	A	3743	1	2021	MTVLTQTSSQHSTGCHAKPAIT TPWLLAVFFQGGVQLQSVGGK ASQADIILGLSPVSAIFQLYDVS FPPGKQGRPGLGSAGRIEVAR CGMLWKQRGYLISSSQPIKNGQ QVSDLFEAIPKSLAIHKISGYS TLETPESKHNHFTNTLAIDLV NAFFSIAVHKVHQQQFAFIWQ GQYTFTVLAQGYINS/PPALC HNLTORDLDCFLLQDNTLVH YIDDIMLIRSSEQAANTDLLV RHFCATGWEINPTKTQGPSTSV KFLGFQWCGACQDIPSKVKDK LLHLAPLASKKETQRLVGLFEF WRQHSPHLRMLLQLIYQVTRK AARFEWACTDGLMRSPYDQLT KEEKTRARFTDGSTQCEGTTQK WIAAALQPLSRTCLKDSVHQR VSSAEEDFNNQVDRMSRSVDII HPLSPATPVITQWVHEQSGHGG RDRGHAWAQHGLPLTKADL AMFTAECPIFQQQRPTSPQYG TIPQGDQPATWWQVDYIGPLPS WKRQRFVITGIDTYSRYRFAYP SFNASAKSTIHGLMECLIHSHGI PHSIAFNQGFHMAKEVWQWS HAYGIHWSYHVPHYPEAAGLIE LWNGFLKSQYQLSDNTLQG WGKVLQKVYALNQCSIYGT SPIARIHGSRNQGVVEVALLT VTPNDPL/GKY*LPVPVTLHSDR

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3704	34072	A	3744	3	1197	TLGPGTGPRAGTGSSSPSSSPG TGSVPGAGPGANSVVHPGADS GVRAGAAALAPGLC*VKLLGQM SPPGGALGPHNARQSAVAGGF GRARRPGRHE*LQGTWWSGPG QPLGAALQTATGPVVMNQFLR *TWHHEGHSRAPCPRFWGWF* TYSGEKPLPAAVQPSSSSVF*SL QQRCPFFLGVPQCACSSACPLL F*GL*W*PGVHEDQ*ASPAGSA LTWP*LHHDPPPSSGA*SDATG PGVPGSALAGFQQLGSGGQVL QQGQLGSQTCRGGSPRGRHC* ASSWG*G*AGRLLPWA**PPAR SAGSPHRLRGLS*ARPCGAPR CRAAGGAGP*SSAPRTGDGDV GQLGERE*EAHPARVGQWGW GSRCPQGQGVAFSGSES YMDW SSRNRFRNT
3705	34073	A	3745	1	98	
3706	34074	C	3746	439	1053	
3707	34075	A	3747	48	751	EGDLVFPLGRGMLRLVSFSKMF KLLKRTMDYGSGPSVSGHIPL PQACGPPQLVCSRRVRGQRPRP HSVPGSRAAPGLSGDTGRFLSG FGKFCFGSRKGALLTKGFSVSS GWPAAKFPPAQRVQTIVRSR/P RRPGKRVL*GEK/GEWAASLPT PLPLAGPSLPSVPGVPVAPQTV RAVSPVTPQGPSSPPFLREHSTQ PRPGCREIYQHPRMGTGRMRTP WPWRLSARPAAAAA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3708	34076	A	3748	1279	2791	QAAGGAAGAERDEGAGVA/GA HGPSRSTARRGGRGAGPRPPPP PRSLGTGSAGRGAAEGTGRAR RPAGAAAGRALRAGRAGRLGA CGGVAAVGARGLRAAAAGAR RRGAPATGAPPP/PSAAASPTAP/ PGPRHPGRVSGAAARAPPGTAP RIGERRPGGGAPATEPPDSRTPA AARASSA/PGAVSGPAAAPGPP GRRENAEGR*PQDAG*RGLWE GALPVPGSSPQTSSSSTGRTSGG SRAPSHMVPGTGSPPGVRGGEA GAR*AAAPAGVKPSSLWKK*L ALFRPCFQEPTPG/SVGCGRPLE CFTHSSPVGV/NGHRHCDNCCR/ PLKPPSPKAAWAVPRAAVPEA HA*K*RAEDQRGLRVLGPVNTL SNPPTRGFR*LGTGVPGFQDPC VDS/GL*VEEGLCPEASRGNGE RNKGTWGIPPQPLRPSSRWLQ E*PTPLPGSP*DATSPPAGGGRH RSRLPKPALVGNAGTSSLPAPE PCFPHLYFTTFLSLDSSLKFRD LAGILIFE
3709	34077	B	3749	71	285	
3710	34078	A	3750	417	1208	GPQRVPTLWWEDAERSQRDG VGGRAEAPGARIPRDLGAAGG LRGHPRLVRGHCRRRLRCSMA RTLVLRVTPVPGGAPLALRQPP VPGGSRQEWPAFSRVGTGLPLT PTAGPSRARGARRPCPPALPGH CLLDRTYTGLQTLGAETLLAVV NSAAMNVGVQVVDVELHRHS LGEDCIYPQSSESDISDAPPSLPL TIPAPVKASSPIKQSHEPVPDTS VEKGS\PGSCPFHL*GPLSHLGS SPGFLLWRPPGLLSSVALVASC

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3711	34079	A	3751	10	932	LQLCSMWLLRSWVQAEGAVSI SDSPFSLHQCWAVLHKA WCVF LQLPGGFTFTLNPLSDNLLGKR VDSAPSWGPLGSAFRGVHMP VGAAWEGKGPNNLRPSGKLG SGSRPTPIGQQQLPEVPRAKGPL GPAAVICQ/HMPAPSTGGKRG FSGRYLSASLELGGLPMAPTGP SALSAPPSVSRGAR*STREKPGV YASAT*AAEIREGQALGG\PRPS RNG/SGGPLGPDFGPNPKLRRS KAGCPWWHLSSVDAGE*LWK QHSTAVFSMPGTQPPWRGLITM PISPRGTEPTAHPGPRSPGLAYS LTA
3712	34080	A	3752	3	650	GTVLDDPHLTGYCWHPPCPPNS VCNGLSPVLREEAESSEAPVQ SPQRSWTPSAKSPPLPASPPCSQ LKAGGDQEGLRGALPVGMD RGGPGGCGGHCQCSRPRILSPV VPVPQVCPSEAPGPPRQVPHTP RPQEPSRTRGRLEA\SAPSWQ*P APPAGSLPAWP/PG/RPAPTGS AR*AGLESETTWSTNGPTTVH P*TL*AGSLGAPQTSAAASEHSP CPNLPLPL*KPWCATNLSCRI
3713	34081	B	3753	1	1812	
3714	34082	A	3754	1	209	MAQDYGAMGDLVLLGLGLGL ALAVIVLAVVLSRHQAP/C*PPA FAHAAVAADSKVCSDIGQRTC RDATPT
3715	34083	A	3755	2	462	PPLPGCLGDTGAPWPGPGCTGP PPRTRSPRLPG*APASRLQNP PRGRWPAGHSRCH*SQPWLA GPTGS*HLPDASGFCPGALTGS CLPSLGGAGGGW\QSAPPDVGS KWNTPRRSGAPAPPGRLLPGP ACRAPPRLPLS*AGRVGRPG
3716	34084	A	3756	129	616	NRIFLNCNMVHKCKCKTPMVV AGASLVETGQDESIKDE*LNGIP GPVATPSRLPPQRTWNPGPH MP*RRPQSLPQPSQAPPGFSL* GSEGETQPKP/P/GLPGLGPPR QPGRCGFAVD/PPRCGVSPGPG VPGPAGPAAGAAPG*PKLRQRP GPSIGDCGDAP
3717	34085	A	3757	59	292	YCNVSFGPILSARKPASPRSS*T SATWLQNHPLMYLTPGTGTLW RFLTTRENVYPYGPVP*WNRTIC GVANWPYWPSV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3718	34086	A	3758	177	448	GTGGWVAMLQQYFA/TAWIPH NDGTNNFYTANLANGIAAIGY KSQPALWVTGGLLVIIITFIVRGI VYPLTKSQ\TSM\AKMLVL*P GA EGL
3719	34087	A	3759	1097	1206	
3720	34088	A	3760	2	505	QGSRAKLSTPLGLSCTRSTAGP SRFARCSLGGCSHPSRHSPHLPP PPPVQFRAGPRGRQGSPSRGSPS \GAFPAGPGGAAAAAVGDDQQ QQEQHGAHEGEENNEGNSVPC G/PGKTGGSSVSPGLPEPWPPAP LWTQPSWSAPCHP*KPPIPPTR QVLGRTGCFLLPAP
3721	34089	A	3761	181	581	ADELNVPLT*APAIPLSKEMKL HVPTKPARKRLKWLHSQQPTC PSTGEPVSNCG\PPPVPQPTTQQ YQGLDAGATTRVPRSLLRSEGS QTQKSPSCGSHSQDNSGG/SQSS PVTPQHLLSPRAPQAAPSPDRA PV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3722	34090	A	3762	18	2104	RWQGDKRDSA*RGNLRARKPS KRGK/DR*RRVSPTRSGKRRGA EEKNRQEKKKGREKERREKRS ERQRDRRRRKEQRKEEQRRRA RTNERKPRQTQANGATSS*KAS AQQAGMWGGSP*TDATAIRRG GAPCSSRRTCLNQGTIATPSGR\ RRHGDAG*PGLASEHDASGHG CLRTGAG*PSDSTESVCCRPLA MHVPTHESHGPVFTRLVSHTFH CG\SKLPAVGRPVACRPTYSPSL CHNPQRPAQLLAHSSALQCAPL SWDPQRCAPPSRPHRRGPPSP HPHRRAPPSPHHRA/HTTART DPTTSAPPP/RQTQRRATREPAT KHTRNAHPRRSACNRGTHHP RRRRTTERTTHHARPRNRGQAT PNTRQPTAGRHEETDGATRRR QHGQTRGEGG/RRRGRAAKTR QRERQEPHDNTRRTRRRPKRR DRTGAPAGTRNRTSGHKKRQP GTRASTGTAPASQQQQTPTVLS RCISRFGVFYGPDFSGG\NSFCS LPLMSDSTLSTYGGQRRG/RSR ARKTQDTGVLSPLRRERSCPPA HGRFPGLFLSTHRQVGPAALRP PELSCE*LPQDGDFCVWLPSLR SRLRGTRVVAPASS/CGDWQV TAVAP*PQTQSPSLSQSRDVEK RHRGQHPSVGSV*LMKAA*RG PSGAKRPKTAPRPQCRARVLPK RSGPTSPGRGSCGSQSRTRGF*D
3723	34091	A	3763	1	446	MWESLELPRDLLNGFDQNA DMDNEIQAEEVSDGDEELVGN WSKGKQLKSSENLQLDDATEK KNLFSEEKFKLAEETYLSNEEP NINSQDNGKNVSKACQRTLEQ AFPS/SGS/GGLGGKNGFVG*AQ SPSAVCSLGTWYP\CPSCCSHG
3724	34092	A	3764	186	529	GTCWKLEQSTLPLLHWAGLAC PLAPGTCTSGPLL/TAPQR*MQL CGSPGWHWKRVSVVVAPGRQLP GSGECMFQLPLPCRQPSLCAIPP ILQANLPLNGRQNCCAQISCKE DQSFH
3725	34093	B	3765	73	1374	
3726	34094	C	3766	1	873	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3727	34095	A	3767	603	1208	FTTCSKHQTRPGHRPEQQHPAE KSVSGIFCYAEEMESSQLPDPGS GQPPRGG/ALGPPYEPLSNRIPD APG/EAGPASTPGH*SLDQGIPG *PGLAPRGHRLWKSPETPAPSP APRGVSGGLPGSRSQAQVGSGBP SPHHL*QPAAAGRKDSSSF*AT WRPP/GPPGPAAAAGRKDSSSF* /GHMASPRPPGPAAAGRKDSSS FMVLP
3728	34096	A	3768	872	1015	VIRSRMLIPKTMGKVSPGHVRG LHSRPSQHRPRGLGGKNGFTAA PAMAECSNI/GALAVASEGASP KPWQLPCGVPS/IRRCMETPG* PGRSLLQEQVPHGEP/PARAAQ KGNVGLEPPSTVPTGVPPSGAV RRRPPSSRPQNGRSTDSLHAP GKATS/SSMPAPESSEYEGGGTL QSHRGRAAQDHGNPPLASA*P GDLVKLQLLTPQSDNSCTHIGD NGTYRSQLKAAFAEKLNMGKL TFFITGVNHKWGLPLSLTWLPA NSWESLLSFPPSPPPQQLNDKPG RRSNITHSSKEDKKTEESLELPR DLLNGFDQNADNDMDNEIQAE VVSDGDEELFGNWSKGDSCYV LAKRLVAFCPFPRDLWDFGLER DDLGYLVEEISKQCCIQEVTRV LLKAFSFIRETDHKSSENLQPDN AIENKIAFSKKKFKPVAEICISN KEPNVNPQDNGESVSRACQRSS QQALPAQAQRPRRKKWFHSCS
3729	34097	A	3769	234	636	GPVSGHHRVNCLPCTILPLRR*R AKGHLCRLLCPAGEATGARWR HSPQPLALLQRAPEPAHHHPAA PPGRLHHAGLRCSVPVPAEEGR GPRPQQARTASLQLRRR/SLL QPQPPD*ARDKMAEPQRRSRQP AHL
3730	34098	A	3770	1597	1878	DTPRFHSRSKRGITLQEYASSRN *RTSSAVPVF*RMSVRGMEVPC SNER*TSISGDQVRPAEEGPGP RPQQRARTASLQLPRRRYFLQP QPPD
3731	34099	A	3771	97	471	GVEELRNVNVFFPHFKYSMDT YVFKDSSQKDLLNFTGTLPVM YQA*ICHCWSSSSSPQVSRGTS HVFSITSDEARQVDLLAYIAK\T LKVFQIQIRAGQIMRIKQSIKL LWLEVENSVLPAH
3732	34100	B	3772	I	1449	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3733	34101	A	3773	1	927	MQRWFNICKSISVIHHINRVKT YMIISIDAEKAFDKIQHLFMIKT LSKIGIQGTYLHVIVYDKPTA NIILNGKKVEAFPLRTGTRQGY PLSQLFFNIALEVLARAIQ/EEI KGIQISKEKVKLSLFAGDMIFYL ENPKDSSKKLLELIKELSKVSRV KINVHKPVALLYTNSDLVENQI KNSTPFTVAAKIIKYLEIYLIN MKDLYKENYKTLKKIIDNTN KWKHILCLWIGRINLVKMTILO KAINKLNTIPIKILP*FFTELEKPI LKCIQNEKRAHIAKARL/SQKN KSGGIRLPDFKLYYKP
3734	34102	A	3774	1	639	MGRNQSKKAENSKNQNAFSP KENDSSTAREQNWMEFDM TELDFRRSVITNFSKLKEHVLTH HKAENLEKRLDKWLTRINSV EKTLYLMEKTTLFMVDNG/C R*LENSHDL*AYFLHLLGNTGL *CCVRGQIGDGKEKREQRDSRS MG/EILRAQLEPFAFHQRSVQC GDIRDLWMGYFLLNLMKKLTF Q*FP*QDT*QLKELKKIAST
3735	34103	A	3775	3	1079	APGPRGAGAQAACGASAGGDP ECAAY*GGAQCECGPTVGPGE VPRAV*VWVHGGPWAGGYPV Q*CDAGGREGSFAGAAAAPGG AAGEPAGPCPGAAAAEPAGAG AQQPPAGREVCAGDSGPGAAP EAGGAGGGGAGGTAVPGGDPR AAAGPASGPQGPATAAAAAGG RARGTAGAAPRPQGQHAGTGA GPPGAAGPARAAAGPAGQRGG TGGGPAGRA*TPDARWASAAG PGGGAEEASERARQGSAAAGR VVSGAG*AAG*TRGATGPAGA AGAGAGTAGDAEPAAARVQPA AGPERLPADHAV*AIDTAAKCP GRGEPAAAG*SSGPEPGEQGAP GAQPGESGPPAPRTAGVPGPA
3736	34104	B	3776	45	149	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3737	34105	A	3777	3	442	EGKDERNDGKDEGKDEKKNE RNDGKDERNDEGKDEGKDERK DERNDEGKDEGNDEGKDD*KD EGKDEGKDEGKDDGKDERKDE GKDEGKDERKDEGKDEGNDEG KDERKDERKDEGKDEGKDEGK DERKDEGKDEGKDEGKDIEGK DEGKDEGKDEGKDERKDEGKD EGKDEGKDEGKDEGKDEGKDE RKDEGKDEGKDEGKDEGKDER KDEGKDEGNDEGKDERKDERK DEGKDEGKDEGKDERKDEGKD EGKDEGKDAGKG
3738	34106	A	3778	459	660	VRGHEWAQKKYHKFSLWSVD ST*N*QSPHASGCHWLEEPAA FCHASPAASGIFAAAASDRPLLP SV
3739	34107	A	3779	2	440	RPLSLINIHANFLSKILANSIKQC LNRIIHHDGVRFIFEM*E*FNIHR SINVTTYINRMKNKNMI\DAEK AFDNIQHPFIKILIKLGIEGT*LN TIKALLMAAAACL\NSCCKDAR SSRGGMAEGCRLSASSELWAP MSMGGGLR
3740	34108	A	3780	1	1145	RHPGWPTPAACPTTLRWLKAP VWTPGP/QKMEKEPAARGTPGT GKERLKAGASGFAGGMGPRSV PARKKAQTAPPLQPP/RAAPGPE RGAALGRPVAQQVPGARLAGG AAGLGFPVPRVLPFFPCALSG DRSARERPPGALLRPLPC*GPPT \PVVGGKNDQLKERADSGPDPV AADAVPGEAALQARVP/GALGP AKLSPEGAIVAPA*VRGPRLH QPGLRPGPRQRSDPRFPGSREPA /GERGRGARRGHRGRPGGPCD PRRPGTQGEASERGEAAEGEAA EGGET*ER/GGRGKRRGHGPPG SPGKPYPSAGSHAKGATGRGH GTPGTSPGRSRPGCPRGVPTRS SGLGVARSSAQARGGTEPAPRR SPGAPSGRPATLAK
3741	34109	A	3781	218	376	TRNKILYRQANAERFCHHQACP KG/RS*RKH*TWKGTTGTSHCK NMPNCKDHQG
3742	34110	A	3782	2	187	FTFWHDFAAAGTGCSFPCLVLP SWW*QNLSAFACL*RILFLLHL* SLVWLDMKCWVENSFL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3743	34111	A	3783	1	220	IALMVSTIWHVFAVAGTGCFFP CLVLP SGALVRQA*W*QNLSAF ACL*RILFLLHL*SLVWLD MKF WVENSFL
3744	34112	A	3784	713	997	KFFSLRMLNIGPHSLL/CLQSFC Q\RSAVSLMGFPLWEPDLSLW LPLTFFPSFQLW*I*QLGFL*LLF LRSIFVAFSVFPEFECWPALLD WGSSPG
3745	34113	B	3785	1	1698	
3746	34114	A	3786	948	1121	
3747	34115	A	3787	1211	2437	LTKRWPGTNTSPESG*SRRAC AGL/LIPFTSRSSSPTWTRPLLS/ ACASSHDPGHHNSP*VLVPPDG GTQGFLVLHQADDLHRFLIKILI DIVRQRRENGVKILLGNRV MY HEHSPQVRGGQLEQLPLITVH GGGLQLLHHVLSEGHSAVQNW GWTLPFIIAKLLMNLH
3748	34116	A	3788	1	1908	
3749	34117	A	3789	1	1788	MTGVSRGSGLPISMAENRRPLP VSAGSKPVIPLQSPQLINTTH YFLKSLLTPTSSFAHVISAEDL VQRRNVIGDVYSQGPASPFEIN NGLGSPKYTAWRKQEMGPW QWLWQQDFHLFLGAPLQRYAE PLPVGTISPWGSGCVVDSSQES LPNDKHLRAAKEVPLQLQWQR SFQLPLGASPQRNTRILLTGMFS WVWLNHPGTLLGEKLGSGWS KGRTTAGAI AERLLVSSSSIPG NPEQLPRNAELPLTEVFRCG*IFI QGPCLVKSWGPGAARAEP LQE P*RRGCWFLRA/AIPGNPEQLP RNAELPLTEVFRCGQCSYAAGT PQKAPCPVRSSRARDPCRKPSD CLLGTDEQKDSSNLCRLKCPC L TALKRAVFLPARSWRSENGQT ASSSGSLSPKWEAPPSRGRL TPHTAGSLRSQCDQREEWVSA MEDEMNEMKREGKFREKRIKR KEQTLQEIWDYVKRPNLC LIGV PESDGENGTKLENTLQDIIQENF PNLARQANIQIQEIQRT PQRYS RRATPRHIIIRFTKVEMKEKML RAAREKGWVTHKGKHIRLTAD LSAETLQARREWGSIFN ILKEK NFQPRISYPAKLSFISEGEIKYFT DKQMLRDFATTRPALKELLKE ALNMERNKRYQPLQKHAKM
3750	34118	B	3790	116	885	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3751	34119	A	3791	593	883	
3752	34120	A	3792	47	716	EAPACL*KALSPLAPTTISSVDC GFRASGTITLLPRTGAAHGAAG *DRGGRAGVLTMTASRACCAG P*SS*RYLRQ*TPNSLEGPTGRS LRSRASPGF/TLRDPVTQPSSPV AAVS/ALGVEPGLAPAL*SQRV* ALPR*TRRKSKATAPTATKPNA GHNTTCKKARPGQGPTPEIPALG SPREVDPEVAHPGAFLSQPERR RCVLGSSFPFGYQQRVDPPLPV
3753	34121	A	3793	2	829	GTRAGWRRRRSGRDGPEVTPQ PPGAARDGAG*TGSPPRCAGP A/TAAKPSGHPPPGDFIALGSKG QANESKTASTLLTPAPSGLPSE KRDAALSSASALTGLTKRPI LSSTPPLSALGRLAEAAVAEKR AISPSIKEPSVVPVIEVLPTVLLDEI EAAISWRATMTGSRACCAGP*S S*RSPAPSLTAPST*ASCTWPRS SPTSSPLRASRLCVASCGGTPP STSRPRGTAWCLCPVTSSWPP TRRTRTGPRSLSRCTSRTPWGS GSGWTALT
3754	34122	A	3794	114	254	
3755	34123	B	3795	1	2052	
3756	34124	A	3796	860	1090	
3757	34125	A	3797	2252	2557	LNPLSMGRRWPGEETVTDPGW KRLCHPLHWVAETVPVQAVGA PWSLQMGGWNWGGRCQHLA PSKGVM*RLPGQFGRTPSWKE VPEVWGMFRRPACGPRLS
3758	34126	A	3798	444	854	VSHLEAQK*PSWTC*HQCQWA LPMFPHHSEADGLIE*WNGLLK SQLQCPPGGNIL*G*GKVLQES VYAQNRHLIYGTVPISRTHRPL CSQSTQDSCLLVANPSQICLVHI PFP*VQHSLGL*ISWDWTGEVG PFL
3759	34127	A	3799	1169	1881	LEHPATVIFCFSWETFDPOGFCF SLPKVSGTCLISLLHAFPFVVT SAPCPQEFPHSPHLCFHVPAHHS EADGLIE*WNGLLKSQLQCPPG GNIL*G*GKVLQESVYAQNRHL IYGTVPISRTHGHQVTHGQPV KTT/LL*SPSMGSWGIALVLPPL DLLLSG*SLTLPLAFLLRTHPLL TTVQRRALPFTSWICFLSLFER GKGPGQPLVTWTECQALTLLPS PGSHTQGTWRIPH
3760	34128	B	3800	65	1324	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3761	34129	C	3801	1	1263	
3762	34130	A	3802	1	2845	MAPRSLRMDAIESLAVVSSEY VGAGVNWMLPSSKSTCKILT PHVMVLGEQGLAPPTVFLKALP IPLYHTVPPGGLQPRAPLVTGSL DGGNVPFILSPVLQPEPGPTQ VGKPAAPTLTVNIVGTLPVLSP GLGPTLGSPGKVRNAGKYLCP HCGRDCLKPSVLEKHRSHTGE RPFPCATCGIAFKTQSNLYKHR RTQTHLNNRLSSESEGAGGGL LEEGDKAGEPPRPEGRGESRCQ GMHEGASERPLSP
3763	34131	A	3803	1	279	
3764	34132	A	3804	2	517	KGLAFEVSLADLQNDDEVAFRK FKLITEDVQGNCLTNFYGMG LTCDKICSMVEKWSTMTAEHV DVKTTDGYFFHLFCVGFTHKH NNQILKTSYAQHQQS/RQIQKK MMEIMT*EVQTNDLKEVVNKL IPDNIGKDTEKV/CPIYPLHDVFI RKVKMLENPGFER\MELRGGGS
3765	34133	A	3805	18	602	PAPWRLACNKR\TKGGKKGAK KKG\VNPFSSKEWY\DIVKAPA MFNIRNIGKTLVTRTQGTIAS DGLKGRVFEVSLADLQNDDEV FRK\FKLITEDVQGNCLTNFH GMDLTR\DKMCSMVKK\WQTM IEAHVDVKTTDGYLLRLFVCG FTKKRNNQIRKTSYAQHQQVVR QIRKKMMEIM\TREVQTNDLK E\VVNKL
3766	34134	A	3806	525	1173	GEPHSQATSGHFASSAGDTQAN RVWSGPPANTNRPAEAGHDC* KEN*ETERTSTPKPHLYVTIHKD QRKGISD*RSNE*NEARREV*R KKS\KKK*TKPPRNMGLCEKTK STSDWCT*K*RGAWNQVGKHS SGYYPGERPQPRKAGQHSNSG NTENATKILLKKTNSKTHNCQI HQS*NEGKNVKGSRERSGY QREAHQTNR*SLGRNSTSQKRV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3767	34135	A	3807	111	1329	RNRRRRERHKEREGGGTGGTDW *RRGNRRKRTQGRDDERRGR DDQNHHTTNRRETTKTKRTT NRTQQKREQKRNETSKRNETK RATEQNRRTGTGRSGRSAKRQ RTEPERERAARRARAKRTASAA RDRGLSSTFQLPTRSGNSVHTS KKPLSRKYEQDPWADS/GSEGV WKPVPRRLEAKVMRESQGSSR SCCNSRTSARLITRTMR*ATLSS NKWSFCMPAGRCLTVTSPCCTP CALVTRKMLVTLGL*SRRELT T*GTFVRGKQKISVFSAAWGPG HQAQCSEQPSRGRFHRAQPM *EPCCCKSRHPRATPLHPRPSRPK SPTTPPPTRQNANNKGHNTHHT KPRAPPEPQTTQHEHTPQPPDS HAQDNNNNKNTQQPPPTKNAER PPRPTAHPPPAHKPLL
3768	34136	A	3808	2	517	
3769	34137	B	3809	1	1008	
3770	34138	A	3810	139	1407	WRGGLDSALRAAVTLQGCAGC DRPGSA*SNNYSI*I*R*RW*SN YSEK**GNEGNAVILLFHSNGT ASKWTVNRASADISLQASW GTEHTWPEGEYSAGPSQHSSP AVSDSLPSNSLKKSSAELKKILA NGQMNEQDIRYRDTLGHGNGG TVYKAYHVP SGKILAVKVILLD ITLELQKQIMSEILEILYKCDSSYI IGFYGAFFVENRISICTEFMDGG SLDVYRKMP EHV LGRIAVAVV KGLTYLWSLKILHRDVKPSNM LVNTRGQVKLCDFGVSTQLVN SIAKTYVGTNAYMAPERISGEQ YGIHSDVWSLGISFMELALGRF PYPQIQKNQGSMLPLQLQCIV DEDSPLVPVGEFSEPFVHFITQC MRKQPKERPAP EELMGHPFIVQ FNDGNAAVVSMWVCRALEER
3771	34139	B	3811	1	1134	
3772	34140	A	3812	374	931	WRGGLDSALRAAVTLQGCAGC DRPGSA*SNNYSI*I*R*RW*SN YSEK**GNEGNAVILLFHSNGT ASKWTVNRASADISLQASW GTEHTWPEGEYSAGPSQHSSP AVSDSLPSNSLKKSSAELKKILA NGQMNEQDIRYRDTLGHGNGG TVYKAYLCPEWENIICKGHTR YYTGTSEANYV
3773	34141	A	3813	3	444	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3774	34142	A	3814	75	807	GIAGFVNIHLDSLSFLTGVPGVK AERFE*RMTAKHCALSLVGEPI MYPEINRFLKLLHQCKISSFLVT NAQFP AEIRNLEPVTQLYVRVD ASTKDSLKKIDRPLFKDFWQRF LDSVKALAVKYLRIGSRTPM DTKIYSYCPAVHPAEPTDMKS WPSLFEVPTSLEYCPFYQLLVES ADAEGTQKYRRLTAYYIPVYTE PPLITKEPSCLWKQAEFGDLGK HVWLVEQFSSTRVQEHEGVGW
3775	34143	A	3815	35	2088	KVMNKRSTQNGTRYMTPPPR SSHTKQHLL\PTPPRSSHTKQH PLHDPITTKLTHRT/CTRYTTPSP RSSDTEQHPL\APSPRSSDTEQ HPL\APSPRSSDTEQHPLHDPT TTKLT YRTAPATRPHHHEAHTQ NSTRYTTPSPRSSDTEQHPLHGP ITTKLTHRTAPATRPHHHEAHT QNSTRYTAPPPRSSDTEQHPLH GPTTTKL RHTTAPATRPHHHEA HTQNSTRYTAPSPRSSDTEQHP LHGPIITTKLTHRTAPAT/PAPSP RSSHTEQHPL\APPPRSSDTEQ HPLHGPTTTKLTHRTAPATRPH HHEAHTQNSTRYTAPPPRSSDT EQHPL\APPPRSSHTEQHPL\PA PSPRSSHTEQHPL\APSPRSSHT EQHPLHGPIITTKL/STQNSTRYT APSPRSSDTEQHPL\PTSPRSSH TEQHPL\PTSPRSSHTEQHPLH GPITMKLTHRTAPATRPHHHEA HTQNSTRYTAPSPRSSHTEQHP L\APSPRSSHTEQHPL\APSPRS SHTEQHPLHGPIITTKLTHRTAP AP/PTSPRSSDTEQHPLHGPIIT KL RHTTAPATRPHHHEVQEQA KPIK*PPRSPETTRAQPREPAV TLLPSGALGQACPCDATAGPHG TTLWPAVPPRWQQLTRELLH PVPRACP*QGQGPF TAGPGRG SHPYDPTGASPKGQSSIL
3776	34144	A	3816	83	184	RLTLPDRLGSPPDTH*AQHITRA VLPQGFTDSPH

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3777	34145	A	3817	1	811	MAEEDSGNLQPEGEAGEAGTSS HGGAGERVKGKVLQTFKQPD TKQTRFIRGPKTPAPVTDWEGS LPLVFNHCRDASLIHHPFKGVR PRRDACLGPSPLAASPAFLGKG QHAKRLKPIITRLLQHGLLKPI NSPYNSPILPVLKPKPYKL VQDLCLINHIVLLPIHPMVPNPYTL LSSIPASTTHYSVLDLKHAFFTIP LHPSSQPLFAFTWTDPDTHQAQ QIT*AVQPQSFTDSPHYLNQAQI SSSSVTYLGIIILHENTRALPADH
3778	34146	A	3818	2	324	HFEARRQAGPPKPSQPPFR*LP TAGT/RGGGGEKAAGGFRWGR FAG/MGQGPDPGGAHGQNPASP SLDFPWGPICASQGVTDQSPSTF QGPLGEA*KPTAGAKPGAGAG
3779	34147	B	3819	206	1391	
3780	34148	A	3820	229	792	LGSSAGNSAPDPWRPTSSGVFS FHNTSHSHWILRLRTQERFSEV CVQGTWPTRPLWALPPP*FPFPS PAPAAFASCQSLPPHSPQSPRPG AGIS/RPRSQEAPDSSQ/PAPTRP SVPSPMANQSGDDRQPPPPQD TPPRPNAASQSAGHNYASLPAP RGRVGVGIGFPGSPACAGGGIW HFHTLSFPAF

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3781	34149	A	3821	3	1676	KDNERRLNTRCRSTRSHKRAHTR RSIRAHRGSAAPPAQAPGW RWASSCPRVQSAAGRGRSGA ASGR*APRWGCPP*CGSRPGKC SPSPAPLASTFPRPGTEPPCRL*R GTCLGSACSGSGRG*RR*GTG TQRRCPGPSARPRTRRRQISCQG KFS*CPSASSTNVCSPTGRGL*K PVPWAPGGRRRRPS*GRSSGDL SSGTWWP*S*ELGIPEYSHST/Q G/LVGVAMPPHRAVTVGNVHIA GQARKKDSP/GGRSPAUL*SPL FCAPGGRGASHLLLSFP*ESPAP *TARP/PLPARKLTPVVLLRDG LGRGGLGRR*PCSAEKS\GRGRS GWRRARRPPSEAGTRGNRTSSS WRAPWRPGLGTGEPPGAPPGF APSSSPRRTPIPLSPASGSGGSG LGRRQRAADRARTKPGGD*VG SWAGRRPPGGAEGP*GQRRPRP YAVLLLSGWPVGEGGGSLQPS VQLLVQGGPVGLTG*VSPRLLT REALKQNGATEAGGEHWPCSP PSH*/PGAGEHPGAADTLQVAS PA*GHGTAGRQGRAPAAHPAH RGQRAHSTRQ
3782	34150	C	3822	78	371	
3783	34151	C	3823	349	591	
3784	34152	A	3824	822	2114	AGRSVRIQAMTCLHPAHLGYP GSFQAPESSCPGQ*GRMHSQPT P/AGRRDMQDEPSFSNNIGVAG PGAMSRYTCPGCKNSNQRTTEP KKMR*TF*SLSSFPWGSGLPHP VPSFLWVPPSQLPNT*KLRAGL GTSGLAPGGTQKLRFMRASLW QSKKSRLCPRWGPSPVGSV*G VEGVAE*RQGLGTAGSGHQPE RTGHRLWPAASG*SLACSAPSR KGSCFSRPSLRSTETSLPAPGSL SAVGH*GVESA WPAAGRAGNH FGPEVADNLYEMKPPEPQVKP GLGRRQRAADRARTKPGGD*V GSWAGRRPPGGAEGP*GQ\GGP GLTSLFFFQGGQSGEGGGS/PAA ECISGGSDSDVALQGSCHVHSEQ GCLAELEDPG*EPGVAVPGWG SQERNVAGTGGVSAHGDTACR PAPPGHW*PTGRGDEIVEAKTK



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3785	34153	A	3825	3	452	PRHSPGCRCPVAEGQSSGRALP PRLILLAVLLLLLCGVT/CWLCP VLLPPEAGTGPATSATSTAALR CGSHPYGQ*QPCTQ\PIGPPTAP CSTHWACGCPAFGSWNWTPW/ PPPAYSLYTPPEPPTSIDEAVKM AKPREEGPALSQKPSPLLGAS
3786	34154	A	3826	16	118	
3787	34155	A	3827	292	1047	SWQELESRAQAPNVGQRDGP RGLSYHVAEVEVNELLVEGQHR LEGDKHFTGHSG*QGARGVKA AGRDP*PRGLVKAVGRGAMES RSSSPKGRGNRMPSGYCTEL*A AGNQSGFVEAGLAFTPAISTPT GGPLGTHRSQCCVQGCHCP*G* LPRRRAAVLVADVAGVPVPSG GSRTG/AQPAVTP\QAEAGGPPA G*APLATGCSSGPRAGTGPRGR SCRPRSPAPAAAAGAAGAAG AAAAAAVRGRSAAPGP
3788	34156	A	3828	2	462	GPVSIPEPEIGPPGPVSIPEPE*G PPGPVSIPEPEEGPPGPVIGIPEPE EGPPGPVSIPEPE*EGPPGPVSIPE PE*GPPGPVSIPEPEEGPPGPVGI GEPEEGPPGPVIGIPEPEEGPPGP VSIPEPEEGPTGPVSIPEPEEGPP GPVGNEMSSR
3789	34157	A	3829	3	374	YRALVFSSSTQ*VSKNFLYSGSS SMLPVLASFLLSFLAIFWNGA NSATAGYSRPQVGGEELVVV CWQRAQLLLQLLLGEARRQAA DDHLRGARGRSHRGGAWTRSS KGTAYRAGRPGPRPTK
3790	34158	A	3830	66	619	VRSLFSEMNVVEFQNGFWNMF PVKRPKISCSGRVCSIPEDSQKE AEKKRCQDWKHRR*SRI*EVFR NL\RVEEKTSANPETLLGEME AKTRELIARRTTPLEYIKNRKL EKQRIREEKREERRRRELEKKR LREEKRRISVEDRWLYTIRINR RKSQRKK*GLRSHSGSDKEHRD VERSQEQ
3791	34159	A	3831	253	482	QVSTCYHSQEKEKKRISSTSKSL NKEKRRNEQKDQ*ALLSSPPSP PAESQGWHWSSLPPhSRFLKTS YILDLDIKK
3792	34160	A	3832	156	443	
3793	34161	B	3833	426	513	
3794	34162	B	3834	47	1311	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3795	34163	A	3835	1503	1652	NCGNNQ*LTNQKKSRSRWIHS QILPDVQGGAGTIPSETIPINRKR GNPP
3796	34164	A	3836	1	1986	
3797	34165	A	3837	1	1116	
3798	34166	A	3838	1	546	ERSSSPAAEQSWMENDFDELRE EGFRRSNFSSELKEEVRTHGKEV KNLEKRLDKWLTRITNTQKSLK DLMELKTTARELHDECTSLTNQ FDQLEERLISNFSKVSGYKING KNHKHSYTPITDKQRAKS*VNS HSQLLQRE/YKYLGIQ/AYNGCE GPLQGKLQTTAQGNKRIQTNG RTFHAHG
3799	34167	A	3839	1	987	
3800	34168	B	3840	1	1593	
3801	34169	C	3841	1	1479	
3802	34170	A	3842	129	368	
3803	34171	B	3843	1	1884	
3804	34172	B	3844	1	471	
3805	34173	B	3845	1	675	
3806	34174	A	3846	1	410	
3807	34175	A	3847	250	880	GEVTKPQFAQFFHGSLASLTIRP GKMESQKVISCLQACKEGLDIN SLESLGQGIKYHFNPSQSILVME GDDIGNINRALQKVFIINSRQFP TAGVRRLLKVSSKVQCFGEDVCI SIPEVDA YVMVLQAI EPRI TLRG TDHFWRPAAQFESARGVTLPD IKIVSTFAKTEAPGA*KPQVQN SEFSL*AFENPVSCQISNSGHVP NFQFRV
3808	34176	A	3848	890	4889	
3809	34177	A	3849	1	799	MYAQPPNCKREKASGDVSLYW WKLAKGCLQMEVSEGAPNSAS TPTGNTVSQELNRPLPQPPYPR RFSWVCRSSLQA*VAESATKTS AFRAPNSFCRLQPRPCCRASPAS PATSCPCGSLAWARPAPASH WARPHRPPPCPTSPRPGRDA PER*AHGPPVPDAR*GALAPQA TGGGQPPGAQPHHARAGPGQP RTPL/Q*GLCARPGEPQLRVTPH GPQAGG/HTQRLPPMGKPGVSG GVCPHSDFPQPMPTVEMTGPRS GVQRPT*DGTGWLAPDAESLV SFEFSSPT*VL*QQWK*RSQVQR PT
3810	34178	A	3850	212	361	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3811	34179	A	3851	3	909	GGRQRGKDTGHMAKQEERE VGGATHL*TTRFRSCSK\SALIP VIPITKSTGSRFRNSVEGLNQEIE IIIKETGEKEEQLIPQDIPDGHRA PPPLVQRSSSTRSIDTQTPGGAD RGSNNSSRSQSVSPTSFLTISNE GSEESPCSADDLLVDPRDKENG NNSPLPKYATSPKPNNSYMFKR EPPEGCERVKVFEECSPKQLHEI PAFYCPDKNKVNFIPKSGSAFC LVSILKPLLPTPDLTLKSGHSL TVTTGMTTTLQPIAVASLSTN TSKTESLEEQVQSCHQLLYSHH QNQLRKLKD
3812	34180	A	3852	189	454	LWKRFNSWTSRLRHPYQPYQAE QIAPQTCGSQSDGGLPSSSGPAP LHHAGLGYGTGSPGARRRVE GQDP*VLEQAAGPTPPRYLVRP
3813	34181	A	3853	17	561	IPGSWRQKMPVPPAA\PAHAQG RPGALQSPGSSTPAQPGSRWEV GGPAAPWGSLRHP*QPYQAEQI APQTCGLQSDGGLPSSSGPAPL HHGGLGYGTGGSPGA/LEEGGR PRSLGPGAGSRAHAAEVSPSG PPSRGLTGSGFCACSEERAGFPR ELMVIKNTVTPTREATTILTKA PAILP
3814	34182	A	3854	1	540	FFQPIFWGKDPQSGTTPHP/RPG PAPSGPEPSISMVTRRWLRAPN CSDRRGEGPRTEADRHGSCCRF RSRAGTAVHSCRRRHPRAGLP SSLCAEAGPRET**LEGGCREG AEPRP*RPGSGAHAHTDPERAH RSGARTQ/HPERAHRSGARTQIR SAHTDPERAHRSGAR\HRSGAR RTLPL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3815	34183	A	3855	1326	2409	GRPPGVPPATAPRAAPGAGDGE AGTPAPGDHPEPVCRIQPG*WG T*GWGASQHWGGHPALALAG RRPSRGLAGASGRSSEEPGVAT QRLWESMERSDEENLKEECSS ESTQQEVLALAEERAQVLGHVE QLKVRVKELEQQQLQESAREAE MERALLQGEREAERALLQKEQ KAVDQLQEKLVLETGIQKER DKDLQRQCCGMMGDRAKASP SWTSTVILKFPLIKNCLNPKDIS LMAKELWSLRTMDALNRNQIG PGCQTQTMVQKGPLDIETGK GLKVQTDKPHLVSLGSGRLSTA ITLLPLEEDCLPSLVDDLVPRLG LKISLETRRRGQMLMLCTPKFEN QWPTTDKMPETSTGSH
3816	34184	A	3856	240	639	DHGRSQ*EPNRPWMPDPDHGA ERTLGPDRDRQRAEMQTDKPH LVSLGSGRLSTAITLLPLEEGRT VIGSAARDISLQGPGLAPEHCYI ENLRGTLTLYPCGNACTIDGLP VRQPTRLTQGLSMSLPSLIQET
3817	34185	A	3857	1	1758	MALLPTVLCLWAQAQVGVQR HNHIFWNEKEHGHGKSGSCHN GASCSAEDGACHCTPGWTGLF CTQRKPHLLASQPLRIPCCGLL ATVGIVQTSREGGMQAAPGLV VPDSCPTRTEELCRGSSRPDWIQ GIDKPKVLQGPCAAFFGKDCGR VCQCQNGASCDHISGKCTCRTG FTGQHCEQRCAPGTFGYGCQQ LCECMNNSTCDHVTGTCYCSP GFKGIRCDQGIMLLLFLIV/CAA GPICLASAAAEREGPRPGSPCLL HTCHE/R*PAPTPSQDLTDHYL RFSMPIMVLT/CLQGAFFGSPGR \PG*TWAPLCGMNVNRPQT/HE LGCDSDHWGPHCSNRCQCQNG ALCNPITGACVCAAGFRGWRC EELCAPGTHGKGCQLPCQCRH GASCDPRAGECLCAPGYTG VYCHPVTGACTCQPGWSGHHNE SCPVGYYGDGCQLPCTCQNGA DCHSITGGCTCAPGFMGEVCA VSCAAGTYGPNCSICSCNNGG TCSPIDGSCTCKEKNVPSLSPS LTYEHIPQVVLPAEGSQDGTG FG LNCSEHCDCSHADGCDPVTGH CCCLAGWTDIQEGFLEKEGPKR
3818	34186	A	3858	2	2414	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3819	34187	A	3859	1	852	DEEEVVAREEEEEEEEEEMVPE ESMASAGPEDFEQDGEEAALA RGAPAVDSLGMEEVDIETEPV AHEKRPSMLDEPPLPVGVEEPA DSREPPEEPGLSQEGAMLLSPEP PAKGLAHPNGSQKVIFRVPLRV IHGPKAVELQVFPGLHKQPTNQ PK/TEPCDPHSWFKSCYHLLFIP VGISRPP/HNPTITATIFASTASV LW/PVLDTCMSSNSGYFKAVLE SYSSKVLSVTQYGNPRATGSAG LRGRPGS\PGSSGSRGP*WP*PQ AAPRCPPSSGRPGPTSQSPS
3820	34188	A	3860	3	1997	AQGSVVPGLFWAFLQLEVNCL LESPIIQGKFHFRLEISVVEPQE RKRLSFRKSEI*P*K*SLVKKL*E RLKTRKQMQLANRLRRYGYSV VES*FPNLKVSSSVSTPTTTYIP MTHKAIFSSYFLWDGRSAFLT YKMMSSHPQEEEEEEEEEGGE GEERKRRKKEEERGKRRKRRR RMK*RRRRTRKRRKRRKMK*R RRRRRRNRKKRKEGKNMKK KM/REEIKRQNALYEIEMRKKL EKKREEMHESRRRFLAPLFSSP TANCSTSLVPRRLASLPAALPS NRVVRVTPPAGVRGAWRHS FSRSIMDTSSSEMLVRFGRC GRAKESTGRDWSLKSSEEDR KMWESLELPRDLLNAFDQNAD SDMDNKMQAEMVSDGDEELS GNWSKGDSCYVLAKRLASFYL CPRDLWNFEKDDLGYLAEISK QQSIQEAQRSRRKKWFGPGPG SLCCVQPIDLPCVPAAPAMAE RGQCRAHAVASEGGSPKPWQL PHGVEPVGAQKSRIEVEPPPR FQKMYGNAWMSRQKFAAEAG PHGEPLGQCRRELWGRSSHVE SLMGHYLVELLSIGAMGIKVQR PRCFFDIAINNQPGEKGTGKSTQ KPLHYKSCLFHRVVKDFMVQG GDFSEGNRGGESIYGGFFEGP AMGPNATNNFTKLAG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3821	34189	A	3861	86	1120	LVLSKGKEHLLGIKEHEEEER RKKYE*KDAEEIKRQNALYEIE MRIKLEKKREEMHESRRRFLEH MQDKHIIKAVEQQQ\RQRKKM KR*ENSSKQKKRLIQMGKEKEA ETHRLMEKRRERIHNFLSELLK EKLDNEDMIIARDIAEAEAEWE KREREKDEKNQAEKLTIAEYRA IVMKNKEEEERQRKIEAKEQLL AVMKADQIFWEHEKEKKCKA DKEHQEVQDAHIQQMAKNKFN AKQAKQAELDYCRLTEALVAE KEKEFQDYAREVIELESETPNK YIYPLVKAVQEGPGGGRGPVVF DRGGLRPSYQANDVTGVQLPF YNSQGPKNFYQKSKRRLGFTW
3822	34190	A	3862	591	2805	WVHQPAGS*GEKPT*ISAPPWP EAPTELWVLTPEAVQEAAAR VGQEVPAAP/RGPLPSSATGAK SLGQGSPTPSTRMSLQSCAGP QHP*TLRRGPLWGTSRWKMVL T*ASRTSSTPGLT/QGPRVTVLL GKAGMGKTTLAHRLCQKWAE GHLNCFQALFLFEFRQLNLITRF LTPSELLFDLYLSPESDHDTVFQ YLEKNADQVLLIFDGLDEALQP MGPDGPGPVLTFLSHLCNGTLL PGCRMATSRPGKLPACLPAEA AMVHMLGFDGPRVEEYVNHFF SAQPSREGALVELQTNGRLRSL CAVPALCQVACLCLHLLPDH APGQSVALLPNM/YSALYADG ARPQPPWALAHLV/LYWTWGR WP*GAWRQGRLLSSMQILLHP* *LLGPLTAC*LPSASAQALGTS/ ETGYAFTHLSLQEFLAALHLMA SPKVNKDTLTQYVTLHSRWVQ RTKARLGLSDHLPTFLAGLASC TCRPFLSHLAQGNEDCVGAKQ AAVVQVLKKLATRKLTPGPKVV ELCHCVDETQEPELASLTAQSL PYQLPFHNFPLTCTDLATLTNIL EHREAPIHLDFDGCPLPHCPEA LVGCGQIENLSFKSRKCGDAFA EALSRLPTMGRLQMLGLAGS KITARGISHLVKALPLCPQLKEV SFRDNQLSDQVVLNIVEVLPHL PRLRKLEQGRSGAPGVGDSTPD
3823	34191	A	3863	1	2784	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3824	34192	A	3864	727	1715	YLSKGLKEVREGSLQIPGEIIPG RKKLMQMLSEKTL*SQHHY*K GFLQRQIHQKMAHLVEQRNK DCMFLQIMPAATS*/TEIQATIR DYYKHLYANELENPEEMDKFL DTYTLQRLNQEEVESLNRPTG SEVEAIINSLPTKKSPGPDGLTA EFYQRYKEEL/PKPCRDTTKK\E NFRPISLMNIDAKILNKILANRI QQHIKKLIHHDQVGFIPGMQG WFNICKSINVIQHINRTKDKNH VIFSIDA EKA FDKIQQPFMLKTL NKL\GIKYPGIQLTRDVKDLFKE NYKPLLSKIKEDTKKWKTLCS WVGRINIVKMAILPKAPLPLPP
3825	34193	B	3865	1	1908	
3826	34194	B	3866	609	1658	
3827	34195	B	3867	61	234	
3828	34196	A	3868	1	978	LFTDDLCPVEATSGQAMVQS RGATTHGGGRGGSCLLGDRG QGSTSQVGRWGSSCHPPTGGV ARSPCWPTARKPLRGVLQGASL GSTASMLGAASGTPRPPPSWL SVPSRAPCWGVPAGIEQGGP ETQPPGAREYPQAGREGRPQI LRFPKSSSSQCLVEFCSLASSCF ALEAMKTRRSPSS/SGSSGSDG/ SQRTTRSGPAQRPRVSGSSEQV DGMRGSSSGMKGRRVPKREP RTEAASSSTA*RQPPPPPSPLPH ARRHFRFRPCCGPARDAAPSRA QTEAPPPLRTQSALSWPLCSRT DGKLSRGQSRDGSRAPTPGVL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3829	34197	A	3869	1	1919	TPVSDEEEGSLHHTTWRNLRJG VRIACPAGENAQSESPPVRACQ PGTKTQYGLNQAWSPGVRRDL IQGSAERPARYPAPGEMGVGAF IPLGHDKRRAASQHLHVSGREG PEALGSRGSALRKQVPAWLPHS LRTCVPDRNPQAPCARTGLMV ETPHHEQWVRGEHYRYKFSRP GGRHAAEGKWWVRKRIGAYFP PLSLEELRPYFRDPHTLMLGQR VTERELDGEPRGPVTVEGRSAT TSGYPTKVTKIGGPLDPAGGLE GPLHGALGSDPLEVSDCPGPHL SRKVWENGSGFGASDQQHTR/YT TDGSSWPTVAEKKAPSSKQYH SSMET*R*TGHSNHPRNRPTCG QVPPNENNRNRPTHTARYLPT /ENNPRNHSTHATRYLLTTTTTE IIPHAARYRPTRTTRYLPTRTTR YLPTKMTREIVPHAATYLPMT TREIIPHTATY/ASNENNQYLP RTTSQVPSNEDNPGCLPTRTTR HLPTRTTRYLPTRMTQEIVPHV AWYLP TKALRPFNGKRTAFSA NAAKRSEAPTLR*ALRT*CPVN PPDTEGTGPAMPSLECPEQGNP QRRWAGR RRRSSGAQDAGQGTR FTPSLWRAWGWSRLRPLSAP GCWLTRKCRTEPPVVPQALMM AAVTDMQTLIH
3830	34198	A	3870	295	457	
3831	34199	A	3871	296	1057	GNEVKMPARETTPHRVPTGAQ PSEAGEKGHHPPDRRMVDPLTL ALCTWKSCRHSMPDCKAAGRE AVPCKVTGAERPRPAPTSAP SGKLEGLSLWCTQSCSCMLHR AGVISVFFTMEDVAPTRGLLH* RAAIGIISPITISVTKTSNNCRWC RVGGCAN*LRGALEAGG/WLQ NQKGRDAFNKRLRGGMDDKPG AGGTCGSGRRNRPLRDRS/VPE VKGGTGTG*KTGSGGLKRKYV GDGTTASFESLRVLIKWPL



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3832	34200	A	3872	3	913	GGADSGERLGPHALGLGAGSG GGRGRYGPSRSRPSGRAADPGG VRFPVAPRGARARRGGRVVP AF*RPAGAA*AAQHVVVSEP AAAARGGGGPGGQGSRAWRG VRRLPGGAGGLAGPPGRVPVL GPPGSGPAAQRPPGRGQAGQ EPPAGDAAAA/PSSGSASCR/G PGAA/GPRALCPGPAPPARRGPR AGLGRPAADRGAPAAAPVRAE PHGLGGAAGARPPHRLRGGAG H/SGALVLLTLWITGGGGDGD RASPGSPGLAT/GAGLVGNKA APS*RAARAPGGLGCRWARFSL TSQCPCPQL
3833	34201	A	3873	2	484	TPWRRKSTE*PTLGVRRPVPRN AMPHHCSFFTGRTVPSMATPG YNEGWDKFRMKCHLCVNYIE MQTDPANCDYVIVSGAQRKEE RWDMAADNEQVLTTEHEKKQK LETDAMFRLEHGEADRSTLKK ALAHTDHIQEAQSAWKDDFAL NSMLRRRFRVPSKP
3834	34202	A	3874	3	531	GRKRSKRMEKGERGEPYSLSLR NHQGSWEPEHMS*KPEGGVLA FKGDDGFSVWESNAIATYVSNE ELWGSAPAAAAQAVQWVNFA DDSQYQGVPTLGKMHHDKQA TQDAGEEV/QPQFQAVLG\EMK LCENMAHFDAKIFAESQPKKDT PRKEKGSREEKQKPQAERKEEK KVATPAP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3835	34203	A	3875	2	1326	TMAAGTLYTYPENWRAFKALI AAQYSGAQVRVLSAPPHFHFG QTNRTPEFLRKFPAGKVPAFEG DDGFCVFESNAIAYYVSNEELR GSTPEAAAQVVQWVSFADSDI VPPASTWVFPTLGIMHH\NKQA TENAKEEVRRILGLLDAYLKTR TFLVGERVTLADITVVCTLLWL YKQVLEPSFRQAFPNTRWFL TCINQPQFRA\VLGEVKLCEKM AQFDAKKFAETQPKKGTTPRKE KGSREEKQKPQAERKEEK\AA APAPEEEMDECEQALAA\EPKA KDPFAHLPKSTFVLDEFKRKYS NEDTLSVALPYFWEHFDKDG WSLWYSEYRFPEELTQPFMSC NLITGMLQRLDKLRKNAFASVI LFGTNNSSSISGVWVFRGQELA FPLSPDWQVDYESYTWKLDP GREETQTLVREYFSWEGAFQH VGKAFNHGKIFK
3836	34204	C	3876	58	222	
3837	34205	A	3877	6	153	
3838	34206	A	3878	2	889	CPPWELILDQFRKSLGISPANTG PLCPAPPSCMYPPSPQMPAKAP/ PDHPPEGRPGTTPEFFPRVTCVT E/PVGKGLSRDSQ*ETRGLQE* SLAAPKSAPCFTHSAICPGAPSM SRHPERSVLLFQAPVQEPPAPG PP*WVLREPDFGTGVFPEPSW* KAADFEPLGLCPGRSLSAQCPS WWPPTSSDPG*ALLKSGTGTPT VAPRQPAPAAPRFQRPPQPRGL ASTCPAGPQQKGS DPPGRSAGS E/GSVSGKSLKPCLSPLIPPPQS STQKKASVAKFVEFSPYTKQKS QLSVP
3839	34207	A	3879	1	391	MAKAVEKPESTLEATKSKEV MSRVEWIGTAHMWVDDDETGD NASKTQQTLEPAELATKYANFS EGACKPGYASALMTAIFPRFC KPIRLSP*PRHLAHWCKKWAPK ILGSSAPVALQGAAPVAALMG WR
3840	34208	A	3880	1	346	
3841	34209	A	3881	249	474	VYLLIVLAVLYTNNRQTESQIM SELPFTIASKRIKYLGIQL\TRDV KDLFKDNYIPLLKEI*EDTSKW KSIPCSWI
3842	34210	A	3882	25	302	
3843	34211	A	3883	1	2235	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3844	34212	A	3884	1	2724	MGGMVESSRHNWSGLDKQSDI QNLNEERILALQLCGWIKKGT VDVGPFLNSLVQEGEWERAAA VALFNLDIRRAIQILNEGASSEK GDLNLSNVVAMALSGYTDEKNS LWREMCSTLRLQLNNPYLCVM FAFLTSETGSYDGVLYENKVAV RDRVAFACKFLSDTQLNRYIEK LTNEMKEAGNLEGILLTGLTKD GVDLMESYVDRTGDVQTASYC MLQGSPLDVLKDERVQYWIEN YRNLLDAWRFWHKRAEFDIHR SKLDPSSKPLAQVFVSCNFCGK SISYSCSAVPHQGRGFSQYGV GSPTKSKVTSCPGCRKPLPRCA LCLINMGTPVSSCPDRSTRQKV NKDIQELNSALHQADLIDIYRTL HPKSTAYTFFSAPHHTFSKIDHI VGSKALLSKCKRTEIITNCLSDH SAIKLELRITFTPNRSTTWKLN NVLLNDYWVHNEMKAEIKMFF ETNENKDTTYQNLWDTFKA RGKFIALNAHEKIQTIREYHK HLYANKLENLEEMDKFLDTYT LPRLNQEEVESLNRPTGSEIEAI LNSLPTKKSPGPDGFTAELYQR YKEELVPFLKLFQSIEKEGILP NSFYEASIIIPKTGRDITTKEN FRPISLMNIDAKILNKILANQIQ QHIKKLIHHDQVGFIPGMQGW F NIRKSINVIQHINRTKDKNHMII SIDAEKAFDKIQPFMLKTLNK
3845	34213	B	3885	1	1971	
3846	34214	A	3886	1	1146	METRPSRGPLTPHTARCQSETK LPEEGSGSNICCSAIFAILQPPLV IPRQTGSGVDLQQTPDLELRD LTVRRKTNKWKGIASSTKRTS TPKRHLSWFFEKINKIDRPLAKL IKKKREKNQIDTIKNDKGDITTN PTEIQTIREYYKHLANKLEN LEEMDKFLDTYTLTRLNQEEVE SLNIPITVSEIEAIKSLPTKKSPG PDGFTAIFYQASIIILNGQKLEE FPLKTGTRQGCPPLSPLLFNTVLE LLTRTIRQEKETKGI/QLGKEEV KLSLFADDMIVYLENPIVSALN LLKLISNFSKISGYKINVQKSHA FLETNNRQTESQIVSELPFTITTK RIKYLGIQLTRDLKDLFKENYK PLLNEIKEDTNKWNILCS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3847	34215	A	3887	66	1392	QVLLSFGTPLVLTTRKREKNQID AIKNDKGDITTDPTIEIQITSIEYY KHL YANKLENLEEMDKLLDTY TLPRLNQEGVESLNRPTGSEIE AIINSLRPISLMNIHAKILNKILG N*IQQHIKKLIHHDQVGFIPGMQ GWFNIRKSINVIEHINRTKDKN HMIILIDAEKAFDKIQPFMLKT LNKLGIDGTYLKJIIRAIYGKPTV NIILNRQKLEAFPLKTGTRQGCP LSPLLFNIVLEVLAKEIRQEKEI KGIQLGKEEVKLSLFADDMIVY LENPIISAQNLLKLTGNFSKVSG YKINVQKSQAFLYTNNRQTESQ IMSELPFTIASKRIKYLGIQLTRD VKDLVKENYKPLLKEIKEDTNK WKNIPCSWVGRINILKMAILPK VIYRFNAIPIKLPMTFFTELEKTT LKFIWNQKRACIAKSILSQKNK AGGITLPDFK
3848	34216	B	3888	1	2868	
3849	34217	A	3889	1	1218	
3850	34218	A	3890	1	1893	MKEIETQKTLQKINESRSWFFE KINKVDRPLARLIKKKREKNQI DAIKNDKRDVSTDPAVIQTTIRE YYKHL YANKLENLEEMDKFLD TYTLPRLNKEEVESLNRPTGSE IEAIINSLPIKKSPGPDGFTADFY QRYKQELVPFLLKLFQSIEKEGI LPGSVYEASIIIPKPGRDTTKK ENFRPISLTNIDAKILNKILANRI QQHIKKLIPHDQVGFIPRMSW LEVLAIRQEKEIKG/IQLGKE EVKLSLFADDMIIYLENPIISAQ NLLKLISNFSKVSGYKINVQKS QAFLYINNRQKESQIMSELPFTI ASKRIKYLGIQLTRHVKEHFKE NYKPLVNKIKEDTNKWKNMPC SWVGRINIVKMTILPKIERIGKT KGTETQRGKCKPTHVPVSISL AESIARDFCLQLNRARSCDQSS YNEVLEADNRAFSLCKGMPFD RLSPISQTPGPSWYQSSPYQPMF LAAPIDIGSRPASMDPIHSRTWH YVTVVILARSRKHQELILSESKQ FEEAPPELRSRAPGGFSKPAAG QIKVGLRENLTASMQISPADAN LILQDSFLAIFLQALIVTIYKEN EKEEGQERREEALRSTGKNNV WKNTDIDRPESISDESAGCDY

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3851	34219	A	3891	2	1562	WGEIRAEKLIKPKTGAPLFLQRI AAPRQQRNKTGQRMSLT*QK *ASEGR**QT/LSKLKEHVLTHC KEVKNLEKRALAKLIKKKREK NQIDAIKNDKRDITTDPTETI REYYKHLIYANKLETLEEMDKF LDITYTLPRLNQEEVESLNRPITG SEIEEIINSLPTKKSPGPDGFTAE FYQRYKEEL/PDKQLQQSLRIQ NQCAKITSIPHQ*QTNREPHE *TPIPYYKENEIPRNPYKGC GPLQGELOTTAQRKRGHKQM EEHSMMLMDRKKQYCENGHTA QGSTDGFEVQRLRLWQEDDVA EEVSGFFEDNLKSVAQDPFWE SRQVKTI FNCVDTYIAGAKAIA GITQVTCTGNQFAEINQRFLKL KKSWSLYRRFQPWQEECGPSW NPSWTHPSVASSRKDAAQRE AQEGDLQGQEGAEASHAGGPA ADHYSGTAHAGRGRALDRGVC VRGHAPPPITELSRPAGCGPHR QGEEAREGDANKKNGFHIQRC SCCLSCQEHPLVPLVFGLD
3852	34220	A	3892	2428	6109	YPESTMNSNKFTRKKSNNPIKK CQQASQLKALPTQSCSPSSNSY ETFLVSPLHPFQFYISFPHYTEM VPPLTPEDYNSRGDFGGDTETN HIISKFHRSLQVQNAASRRSQ DGRIGTAPVYSSQRERRRRVIS AFPSEERSSSPAMEQSWMENDF EELREEGFRRSNYSELREDIQT GKEVENFEQNLEECITRITNTEK CLKELMELKTKARELREECRSL RSRCDQLEERISVMEDEMNM KREGKFREKR
3853	34221	C	3893	13	391	
3854	34222	A	3894	117	704	WLSAWPRACPCRVRFPHTSPP CLPCGPEAEPGPGPALREL VQP LPGQLQPPFGMPLPLVPAGSFLI CTVWERPRPGLAVGSPPCFPSL H/PTVPVGCPPSPCLARPPA*PT THLHIWPSLLFGPLPALPPPLAA SASAGLRKPWLDGLHPSVEPSG LGAAPSPAPPACAWTRPPHLHP SSFSSCVQISSFLCF

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3855	34223	A	3895	1	1185	SAASSVLYVHNEPQVHGAHQK IHPIHPSLHYCLAHIIISQDLHTS MNALGLFGVG*EQGLQEKS SSTHHEPGHGGQDAAGARDGA RGRGGSITGSAAGERGGRTVPH WA/GQPAEAGGAG*PRGPQLRR SPPP/RLPPRAGSSANTRNSVLL* FF*AVCLWADHYPL*TLISSS*M AGRWRSVPGIPTSPTK/PPPPPPP PPPPPPPPPGSFLSEP/VWSTA* NSTCPRRCRSASGGPIWPCRP /PAPPAPPAPPPLEATEESLEEG VGRASRSANMFAPTAPAGSSW HRARWG*PAWKAGAAGTRGA KCGQFVPSASSAP*LAGGWPGA GGQRGARRAQKAWCCRPGTSL /APGPELFPESALVQAGSAPPPP PPPPPPPLCLLLRAESEGA VLM
3856	34224	A	3896	192	477	
3857	34225	A	3897	2	1782	RAAARKEHQGSAT/RAERA/PR TPKAS\VGR\SPVPTSGTVTART GTAPRGLSAEDGRRRGRPIGIP FTDHSSDILSGLNEQRTQGLLC DVVILVEGREFP\THRSVLAACS QYFKKLFTSGAVVDQQNVYEI DFVSAEALTALMDFAYTATLT VSTANVGDILSAARLLEIPAVSH VCADLLDRQILAADAGADAGQ LDLVDQIDQRNLLRAKEYLEF/ YYQSNPMNSLPPAAAAAASF PWSAFGASDDDLATKEAVAA A\VAAVAAGDCNGLDFYGP GP PAE\RPPTGDG\DEGDSNPGLWP ERDEDAPTGGLFPPPVAPPAAT QNGHYGRGEEEEASLSEAAP EPGDSPGFLSGAAEGEDGDGPD VDGLAASTLLQQ/MDVIGGPGG G\RGGGQRRGVAGRRQGRHGL LPEVLQRRPRRRRLPGLVAEGG EEDPSQGLPEVPHLREGHPGRR QAAATHPHPHGREALRVQHLQ GPLHQDTSTSTLQKPGSPRPL*V TAGR*AGQAEGAHAEGHREA VPVPAVRRRLCPQLRPEEPHAR AHGPAPLPVRQLLQDLRPLRPP AQTPQERRLQRRPLAPAVPASP CVLWAGGCPDPQPW
3858	34226	C	3898	162	356	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3859	34227	A	3899	3	2289	GELHGVAEQAEQDPREGSPGP AEQASGTELREVPGPHWPLHPP EAPVCQHYHRPMVQKGN*GSV WGRGESLVQG/AHGQTSQRSV QMTGGGAWTGQTSQRSVQMT GGGGTPRGSRSSSPRTTTPGTA EDTEGEPAGAGEQAAGRVPVRP LHGHPGAGQEAAAGVRELPPA EPAAHLHPQPALLIQHPISHAR SQHPRRPCCLPGPGLRAGGTAE GLPCAFCSQRDERAEGRERDLE GGGEAASGPGRQAQA*PGQGGH LGPPLTPAAPLPWWLEGHRE ATGRPRGG*GRPPGRGPTGRRK ASRAQDISSGQNLPRGHPA*VA SPRHEPPAHLQPAARDHCRGA\ PGSQACPADRGPA NGTPPPLPA RSSPPSP\GMSVASPWTASCGPP GPPP*PIGPEALPEGGPALPPKP PPVPAPSEPPQQPPGPCCSPQRP PAPGPEGQRSRGLGGAHRTAG AAQCPGGHAGPSPGGGTAPAP GPAAAAG*GQGRQCQAKGPAH TRGDAALPTSLRL*GP*E*GD QGSSGAAGLGGRRHTQPAGPG RAQRTEAAATQDCALDKPLDL SEWGRARGQDTPKPAGQHGS SPAAAHTASPEPPTQSGPLTRSP QALSNGTKGTRVPEQEEASTPM PPDLGDGHP\GPARLKC*DQSPTN WMRQTPQAA\SGPELPGGGVPT STTGEGPECICTQEHGQGPPRK
3860	34228	A	3900	3	3169	ASQLVLTLAYQANCVSVS YTD LLGKPGGSYFTFLYVLNIRSR LKKDYDDFRQPDHDTFNREL WTTDEGEDLGKDSKGEISKS IDSTEPLDILEKDHFDSDDMKLS EIDFPMARSKLLKKELPSKDLP KTLKTLKRQSKQTDYVDDST KELSPRKKAKLSTNETTVENLE SDVQIDCFSESKHTEPSFPESFA SLDSVPVSTLQKGTKPIQALLA KNIGNKVTLTNQLPPSTGRNAL AVEKPVLSPEAS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3861	34229	A	3901	33	1227	HHLRGTGQRAGQQLPPGMKM GRAGPPGPWCEHTT/PPSRGRPT SSGGPTLAPALAE\SPRPQTPSP SISSLPMITSLPGGTGPLCLRPLS WEKPGSATGK\RG\SSQQEVDVG PSPGHTAPSKSHGQGPV\GSPSA RQGCCPASSALQRRREP\GGGPR GHPAGPHGGCVLPPWP\GCPGN TMQRL*GFHTRAMNTQSGAGP RTAPSPRAQGAQGRPSKSCSGA SQGPCPAVGPH*APGEDRV\RH LASISGTTTRAHGRPSQQREPRN KSTRADSRSPRTVPPHGP\GPSL PRGR\PAQPGPGV*RN\GISVGAG RFPPFTAPCGQ\QARPGAG\NRG AGSGA\PEL*GGLGRDPGSSGCE VPGGRAGG/PPRT*HFLARPAPP SPPQGLPRPPKV\GLQA*ASAPS
3862	34230	A	3902	124	1183	DNRAVFSPTGRR\DRGGGGPAG TLARV*SAPGAFGV*STRTHVA GVQMPPVPGTCDVCTR\PCSPVS RPPRASTAVAAAAS/SGPRQPR HPRHTSPMPPPAALRPPAGPRG LAPGG/HTAPPATAAPVELQHP LLRLQTGPPLGPPTGPA*EPRAH PCIRGLLPAGSGPPRRQGHPEP PRLHTAACSPCQPQRALESSCPP RA\PGTA\AHWLLGTGDWLL*P AAQAALASQEWALPGICLCNSL SEPTGRVILASQLAPCIRLGCRK RSLAKAPKLISGGAGAHTPTPE PTCFSVSVLGTSPPAAGGPRGQ ESVVSSPVTMGT/VPAWAIPSLG CRGEASLDHPAGQLPARGQ\RSR RH



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3863	34231	A	3903	174	1599	VLHAVGNQVQGCPGEVHVCG WRPGCVRLQLHVVGGRADGPE CDLCAVWPGGGDV*PAVPGAV PHVTQCEPQGHYPGEGTGAGA YCAALCGPPGARGHCGQEARQ PQVRTCQCGQERRRDCQDLL*E AGGQEA PGAERPSAG*ASRGTP RAAATHPPRTASPGEGQHV*VP AHVGGARPGAWQRHPGLHQY HRPQHLEPPAQDPDEPHQDP*HL PGQRPAPAVEAEPGQQAPSKP CPPPEPSAPQDGVPAENGLPQG DP/GAIA PRAQAPDSPCGRCTSP GQQ*YWLGP GAPQRGSSPEWD RP*ATQDGRPRRPTPAAICDP G*PREPRGGAPQWAGWGRRR **RLRNPQ*PGQP\SGSSGRGPG PRRPSVASSVSE/RVLRGERALS PSPEAPLRASGQRANPTTAPAA ECPPYNPRDLCWTPGWLPMGP ESGKRRSRCVEEDAGPALHRQ GGTDGET**TGRGGRNPGPYGR
3864	34232	A	3904	331	1120	HKDRFWQLQNDSCFLHSPGER QWLGGRSDTFGPQVLFHGVGI CSQRA/HPAGPGHRGLPEGR*PP HRSQRHPPRSRKPyla*PPDMC VATDRRTQTPrDFPPLGR*KPH GTLRSAACPAGRVSPSPRPRGL PAPPPKSHLCGPGVRGR*QLLP PHPGSPKGERGWTASPGAARG GPGPAPAPRPASWSQPSVTFP LPLAGLA/GHPGSRTEPAWKAG GAAARPGEPRDLQAGSTDT ASGEQLAAGPWTGKEISGRARP RL
3865	34233	A	3905	2	415	YTILTEK*KLSKLST*WVHQDQ LQKREELSMEILNK*DQDSEAY PQRTVTGEETWLYQYDPPPLPR SLPPPQTHTAPVGA*S/DWGG*E LPPGLNGDKLAHHSPTPFLSFSG LLFVDWL*SQLLSLFGLFTQGV RIFI

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3866	34234	A	3906	1	4527	MGFCCRECRPRLLKGRPCIQHA GPVAAFVKVATPYSLYVCEPQG NVTLCRLLGPVDKGHDVTFY KTWYRSSRGEVQTCSERRPIRN LTFQDLHLHHGGHQAANTSHD LAQRHGLEASDHHGNFSITMR NLTLDSGLYCCLVVEIRHHHS EHRVHGAMELQVQTGKDAPSN CVVYPSSSQDSESNHGNFRIH VSNGLLMRGPRPLDRERNSSHV LIVEAYNHDLGPMRSSVRMRK LRQSTALAQHWGTALDR
3867	34235	A	3907	1	2180	MALTFPCRKFEWYGRRQPEVR YSVPASHQLKATDADEGEFGR VWYRILHGNHGNFRIHVSNG LLMRGPRPLDRERNSSHVLIVE AYNHDLGPMRSSVRMRKLRS TALDSTGQAQHWTESRSGSPG SPVAPTCART*QTSASVHLCL SGKSHHAWPP*TPFKLYYVHE YSAHIHKENLVLVIVYVEDIND EAPVFTQQYSRLGLRETAGIG TSVIVVQATDRDSDGGLVNY RILSGAEGKFEIDESTGLITVNY LDYETKTSYMMNVSATDQAPP FNQGFCSVYITLLNELDEAVQF SNASYEAAILENLALGTEIVRV QAYSIDNLNQITYRFDAYTSTQ AKALFKIDAITRILGTQMDTKM NKTLSPQRVLRLEVEMELIQD ANQSATRRCAENYNRGVVEPL RAQQSYLAGEAGRLHGRGGFP VECEREIGIQTECPGEVMPDR GSDMEGVITVQGLVDREKGF YTLTVVADDGGPKVDSTVVS TRVYITVLDENDNSPRFDFTSDS AVSIPEDCPVGQRVATVKA WD PDAGSNGQVVFSLASGNIAGAF EIVTTNDSIGEVFVARPLDREEL DHYILQVVASDRGTTPRKKDHI LQVTILDINDNPPVIESPFGYNV SVNENVGGGTAVVQVRATDRD IGINSVLSYYITEGNKDMTFRM DRISGEIATRPAPDRERQSFYH

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3868	34236	A	3908	603	1395	RGRPRGSPIFPTRAPREKKR*EE VGGHKREQTG*GGGERRKPPN PQHEPKERGWCSPVPEEPQ/RK RRSARARPKKL*REKRRRGRPK RCLW*TGRHPSHHPRTHQC*F* WRK/REEGKERKKEQPAHAGQ KRRKAARHRRRRRRRERTDEK NRTWTRRRREKAGQDEKREGE HGQKRSQQGRESRRDGRARTR KERRQKRENDNRARRRQQAER EKTksVKRRQTTOQAEEVRQA RENEAREPQQRQHSRRRKEKE EMRAPRSKQ
3869	34237	A	3909	1	548	
3870	34238	A	3910	1	1803	
3871	34239	A	3911	1	279	
3872	34240	A	3912	1	506	MCYSRQSNLGTGEGKIKGSEV IDECPRSSRYQDLQELQNKTCL TVLEGDILDESCLKRACQDMSV IIHTTSIIDIIIGVTHRESIMNINVK RTQLLLEACVQATVPVFIYTSTP EVAGPNSYKEIIQNSHEEEPLEN TWCSPS/PYKKA/LARSGI*ATL QLGGSQEECT
3873	34241	A	3913	3	621	AGQQTVEIDL RHRIQLPDLENQ RNFNELSRIVLEVRERVRQEQQ EGGHEAGEGRGRQGPRESQPSP AQPRAEAPSKGPDGTPGEDGGE PGDAVAAAEQPAQCGQGQPFV LPVGVSSRNEDYPRTCRMWNS TFQTYKKEVCLPRHSMHPGPW AICCECQTRFGGRLPVSVEAA LPYWVPLSLRPRKQHPWMHA AGTTAGGSVMS
3874	34242	A	3914	1	430	RHRIQLPDLENQRNFNELSRIVL EVRERVRQEQQEGGHEAGEGR GRQGPRESQPSPAQPRAEAPSK GPDGTPGEDGGEPCNIAVAAAE QPAQCGQGQPFVLPVGVSSRNE DYPRTCRMW*GCGGYWGLKV GQHGLQRGPQPH
3875	34243	A	3915	2	1175	
3876	34244	A	3916	1	256	HLRIHTQESSYVCDECGKALTS KRNLHQHQRIHTGEPYECISKY VG*PFGLLPQLGHLEHVYSGEKP VLDICRFGLEFFTFPYW

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3877	34245	A	3917	1	1396	MRPQLAGRDHHRGAATLLLER PGRVLVTHFRQRRGAVRYGGGK STTQHLSQRRLSGPNDHTKGLV WLEHILQRLVSFVKLQATRFT TRTYITYAWFLPWGFSGVLCGT PVDTCWALKHQRIHTGEKPFEC SECGKAFNGNSSLRHQRIHTGE RPYQCEECGRAFNNDANLIRHQ RIHSGDRPYCYCTECGNSFTSSSE FVIHQRIHTGEKPYECNECGKA FVGNSPLL RHQKIHTGEKPYEC NECGKSFGRTSHLSQHQRIHTG EKPYSCKVCGQAFNFHTKLTR HQRIHSEKPF*L/CVDCGKA FS AQEQLKRHLRIHTQESSYVCDE CGKALTSKRNLHQHQRIHTGE KPYECSKYEKAFTSSQLGHLE HVYSGEKPVLDICRFGLEFFTP FYWKEEKKCGRKMRENVVHK VSFFLVVPIALSSLLKKWKML KKEKAQDPTEYGNLEDDNSQQ
3878	34246	A	3918	1	547	MDSQRP RER/QRERERQSERQR HTQRMHREAETEDERD WKGH DTKTRRQRQRKRAEEGQCREH DRERRRDARTGERREKQKSTQ QSRKPSEEPHREKTQIKRERGPE QGELERGQCTERNRKA/GTPEC *TDPHIWTPHPARSAPAHPPDH TAAKYRPPYRSHHSGITHQHPR AATLKLWPKP
3879	34247	A	3919	1	399	
3880	34248	A	3920	3	872	KSKLKSEQDGISKTHKLLRRTC SSTVKTDDVCVTKSHRTFGRSL SSDPRAEQAMTAIKSHKLLNRP CPAAVKSEECLTKSHRLLTRS WSGDPRCEHNTNLKPHKLLSRS YSSNLRMEELYGLKNHKLLSKS YSSAPKSSKT*/VFSKEP*RRRG RKALSLPQGLFGYP*HHLHPSSS QLAPNGAKCIPVRDRGFLVQTI EFAEQRI PVLNEYCEVCDEPHV FQNGPMLRRGRDVCEWAKKY ANSVVRKKFCRLSIARRSRYRA DMDLLRMSNFILTIYKQKLNL
3881	34249	A	3921	3	218	CCRSHQGAGEGGHLSVQLLWQ YRWMWCSWGPV\FQFHTDLEL VAWRCVGLDPGQQLDIGMQT LIGDHICVF
3882	34250	A	3922	1	1055	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3883	34251	A	3923	3	962	RSMRQKVNKDIQDLISALPQAD LIDIYRTLHPKSTEYTFFSAPHR TYFKIDHIVGSKALLSKCKRTEI TTNCLSDHSAIKLELRIKKLTQN RTTTWKLNNLLNDYWVHNE MKAIEKMLFETNENK/DETYQN LWDTFKA/PSIILNGQKLEAFPL KTGTREGYLLLPLLFNIVLEVL AMAIRQEKE/IKGFQLGKEEVK LSLFADDMIVYLEDPHISAANLL RLISNFSKVSGYKINVQKSQTF YTNNRQTESQIMSELPFTIATKR IKYLGQLTRDVKDLLKENYKP LFNEIKEDTNKWNIPCSWIGRI KIVKMAILPK
3884	34252	A	3924	1	1452	MGDFNTPLSTLDRSMRQKVNK DTQELNSALHQADLIDIYRTLH PKSKEYTFFSALHHTYSKIDRT VGSKALLSKCKRTEIITNSLSDH RAIKLELRIKKLTQNRSTTWKL NNLLNDYWVHNEMKAEIKM FFETNENKDDTYQNLWDTFKA VCRGKFIALNAHNRKQERSKID TLTSQLELEKQEQTQSKASRR QEITKIRAELEMETQKTLQKSN ESRSWFFERINKIDRPLARLIKK KREKNQIDVIKNDKGDITDPT EIQTIREYYKHLKYANKLENLE EMDKFLDYYTLPRLNQEEVESL NRPITGSEIVAIINSLPTKKSPGP DGFTVEFY/QEGN*AGEGNKGY SIRKRRSQIVPVWR*HDCISRKP HRLRPKSP*AGKQLQQSLRIQN QCTKITSIFIHQ*QANRKSNE* TPIHNCFKENKIPRNPYPYKCEG PLQGELQTTAQ*NKRGYKQME EHSMLMGRKNQYRENGHTAQ

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3885	34253	A	3925	1	1251	MKAEINMFFETNENKYTVYQN LWDTFKA VCRGKFIALNAHKR KQERSAMNTLTSQLKELEKQE KTNSKANRKQETTKIRAELEKEI ETQKTHQKINESRSLFFETNKI DRPLARLVKKKREKNQIDAIAKN DTGDITTDPTETIQTIREYYKCL YANKLEYLEEMDKFLDTYTLQ RLNQEKVESLHRPITGSEIEAIIN SLPT/KKSPGPDRFTAQFYQRY DGMYLKIIIRAIYDKPTANIMLN GQKLEAFPLKTGTGRCPLSRL LFNIVLEVLA RAVRQEKEINGIH LGKQEVKLSLFADGMIVYLENP IVSAQNLLKLISKFSKVSGYKIN VQKSQAFLYTNNRQTESQIMSE LPFTITTKRIKYLGIQLARDVKD LFKENYKPLLNIKEDPNKWK NIPCSWIGRINIMKMAILPK
3886	34254	A	3926	1	1203	
3887	34255	A	3927	1	1233	
3888	34256	A	3928	1	951	MKREKNQIDAIAKNDKGDITTD TEIQTIREYYKPLYTNKLENLE EMDKFPDITYTLRLNQEEVESL NRPITGFEIEA/INSLPTK*SPGAE GFTAEFYQSVGSSGQGNQARE RNKGYSTRKRGTVVPVCRWH DCIFRKLHGLSPKSP*ADKQLQ QSLRIQNQCAKITSIPHQ*QTYR EPNHE*TPIHNCYKENKIPRNTT YKGCERPFQGELOTTAQ*NKRR HKQMEEHSMMLDRKNQYREN GHTAQGHL*IQCHPHQATNYFL HRIGKNYFKLHMEPNKSLHSQ DNPQKEQSWRHAT*LQTIQ GYSHQNSI
3889	34257	A	3929	1	814	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3890	34258	A	3930	1	1545	HQLKVQFRIIISIRSSCDGSAWG VAPTFKTRGARSRSRAAIRLGA ADLDEVKSSLVNESENQSSSSD SEAERRPQPVRDTFQKPRDYFA EVRRPQDSAFFKGPPYPGYPFL MIPDLSSPYLSNGPLSPGGARTN SSPAPKETWICARFGGVLSLFLE IGSRVLLLGRDVNRSSSLLPAQI PIACHFAVDGGNFIRGKGAYLL TFDLFGNWGLFFLIEIAVWELS AHSSGQSEDALELSRGTCSSSL QLCWTAKALVGKGLDGGPVC KNSGICSTRKTQEQMSFMEAL YQEGFLRETVVQAVRKVPQTP RKAVLEVLARAIQSKEIKGIQL GKEEVKLSLFADDMTVYLENPI VSAQNLLKLISNFSKVSQYKIN VQKSQAFPYTNNRQTESQIMSE LPFTITTKRIKYLGIQFTKDVKG LFKENYKPLLNEIKEDTNKWK NIPCSWIGRINIVKMAILPKVIY RFNAIPIKLPLTFFTELEKTTLNF IWNQKSRIGKKILSKKNKAGGI
3891	34259	A	3931	693	1464	ARAEVKLSLFADDMIVYLENPII *ARAEVKLSLFADDMIVYLENP IISAQNLLKLISKFSKVSRYKINV QKSQAFLYTNNRQTESQIMSEL PFTIATKRIKYLGIQLTRDVKDL FKENYKPLLNEIKEDTNKWKNI PCSWIGRINIVKMAILPKVIYRF SAIPIKLPMTFFTELEKKNWLAI CRKLKLDFFFIPYTKINSRWIKD LNVRPKTMKTLEESLGNTIQDI GIGKDFMTKTPKAMATK/DQKS FCTAKETTIRVNRQPTWEKIF AIYPSDKGLIS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3892	34260	A	3932	211	2519	ENRKSNCCLQMA*LYI*KIPSS QPKISLS**ANLAKSQDTKSMC KNHKHSYTLITDKQRAKS*VNS HSQLLQRE*NT*ESNLQGM*RT SSRRTTNHCSTK*KRTQTNGRT FHAHG*EESIS*KWPYCPSKC/K. RTEIITNSPSDHSTNKLELRIKKL TQNHTITWKLNNLLNDSWVN NEIKAEIKKFETNENKTTYQ NLWDTAKAVLRGKFIALNAHI GNLERSKIYTLISQLKEPERQEQ TNPKASRRQEITKIRAELEIET QKTLQKINESRSWFFENIKIDRQ LARLIKKKREKNQIDTITNNKG DITTDPIEIQTIREYYKYLYAN KLENLEEMDKFLDYYTLPRLNQ EEVESLNTPTGSEIKAIINSLPT KRSPGPDRSTAE/FYHRYKEEL VLFLKLQFQSTEKEG\GRDITK KENFRPISLMNIDAKILNKILAN RIQQHIKKLIYHDQVGFIPGMQ GWFNICKSINVIFQYTNNRQTES QIMSELPFTIASKRIKYLGIQLTR DVKDLFKENYKPVLEIRGHK QMEEHSMLMDRKNQYCENGH TAQGNL*IQCHPHQATNDFLHR IGKEEVKLSLFADDMIVYLENPI ISAQNLLKLISNFSKVSAKINV QKSQAFRYTNNRQTESQIMSEL PFTIASKRIKYLGIQLTRDVKDL FKENYRPLLNEIKEDTNKWKNI PCSWVGRINIVIMAILSKVIYRF
3893	34261	A	3933	2	1304	
3894	34262	B	3934	141	2008	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3895	34263	A	3935	1	1845	MVISVDAEKT FNKIQQPFTLKT LNKLGIDGSYLKIHRAIYDQPTA NIILNGQKLEAFPLKTGRRQGC PLSPLLFNIVLEVLARAIQEEI KGIQLGKEEVKLSLFADEMIVY LENPIVSVQNLLKPIRNF SKVLG YKINVQKSQAFLYTINRHESQI MSELPFTIATKRMKYLGIVTR YVKDLFKENYKPLLNEVKEDT NKWKNIPCPWIGRINILKMAIL P/KELEKTTLKFIWNQKRACIAK SILSKKNKAGGITLPDFKLYYK ATVTKTAWYWYQNRDIDQWN RTEPSDIIPHIYNHLIFDKPDKNK KWGMGSLFNKWCWENWLAIC RKLKLDPFLTPYTKINSRWIKD LNVRPKTIKLEENLGNTIQDID MGKDFMSKTPKAMATKAKIDK WDLTKLRSFCTAKETTIRVNRQ PKEWEKIFAIYSSDKGLISRIYK ELNFRK\NNPIKKWAKDMNR YF*KEDIYAANRHMKKCSSSLA IREMQIKTTMR/YHLTPVRMAII KKSNNRTRENYFKIHMESKKS QNSQGNRKEKEQSWRHATRL QTIVQGYTVAKTACYWYKNRP TDQSNRTENQEIRLHTYNHLIF DKPDKSNGETTPYSINGARITG
3896	34264	A	3936	1	700	
3897	34265	A	3937	1	3489	MKSGHPEKEQDNSDVQETREIT IRGLLCTALMRHSTGAIAYLGV LSGSASLKLAVPLRCCEGDKD AGHPLETQTALCERGRGARS LV GNTIMTSQVPVNETIIVLP SNVIN FSQAEKPEPTNQGD SLKKHLH AEIKVIGVNLIQNVLERGWGKC QEMIYVLGLDICRPFVSRVSEE GRMGQRGEEDANSLDFPPASLL CLICQEQGVNGESCSPVGM YH REIVPVYEVLSVITGLQIQVFSG KEADSVIKRS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3898	34266	A	3938	120	1331	TSLGPIYCAVRHTSSCRKVGSSR CQHGCQLSVRLQLDQAHKQL PWLAPKNVVPKSLEDPQGRK EGVTALTPEAPRSGPPKRLQLFP PSLCPNCSKQGA YFSFGVTAT LLATPFSRSRVLVLQPGRMRYA DKWRVSKMKRCCIEQWNSSEK THSARASHSLQRQRGGPRVGGG SLQAGCHVISAALSKEEAEWV ASFCRQIVQSYLRPLLCSGADP GAFMDLRGEELRSLELSLSTP PSNEFKISMKLEAQDPRNTTST CIATVVGLTGARLRLRLDGSDN KNDFWRLVDSAEIQPIGNCEKN GGMLQPPLGDSFHC DVRSILD LFCFLSELPTIDTKRIKYLGIQ LTKDVKDLFKENYKPLLNE/IK/ EDTNK WKNIPRSRIG*INIVKMA ILPKDFG
3899	34267	A	3939	1	1421	MDSMSGGGQYRKINGNPTSVK CPLLLLPAILTPEPVNRWRQSC KAFARHSPLAFRVTISTSTFFDG LLVTGLYTSTSVQASQSIGGSSA FGFVLEVLARAIQKEIKGIQL GKEEIKLSLFAGDMIVYLENPIV SAQNLLKLISNFSKVSGYKINV QKSQAFLYTNNRQTESQIMSEL PFTIASKRIKYLGIQLTRDVKDL FK\ENYKPLLKEIKEDTNKWKN IPCSWVGRINIVKMAILPKNWK KLKFIWNQKRAHIAKSILSQKN KAGGITLPDFKLYYEATVTKTA WYWYRNRDIDQWNTTEPSEIM PHIYNYLIFDKPEKNKKWGKDS LFNKWCWESWLAICRKLKLDP FLTPYTKINSRWIKDLNVRPKTI KTLEENLGITIQDIGMGKDFMS KTPKAMATKAKIDKWDLIKLK SFCTAKETTIRVNRQTTKWEKI FATYSSDKGLISRICNELKQIYK KKTNNPIKK

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3900	34268	A	3940	3	1566	IQTTIGEYYKHLTYTNKLENLEE MDKFLDITYTLPRLNQEEGESLK RPMAGSEIEAIINSLPTKNSPGP DRFTAIFYQRYKEELLISNFSK VS/VIQNQWEKITSIPHQ*QTNR EPNHE*TPIHNCFKENKILGIQL TRDVKDLFKENYKPLLSEIKED TNKWKNIPCSWIGRTNIVKMAI LPKDKTSKYIDVDENEGSHCGK RKYKYGMEKALEILARAIROEK EIKGIQLGKEEVKLSLEADDMI VHLENPIISAQNLLKLI\$NFSKV SGHKINVQKSQTFLYTNNRQTE SQIMSGLPFKIATKRIKYLGIQL TRDVRDLFKENYKPLLNETKED TNKWKKNILSSWIGRINIVKMA ILPKVIYRFNAILINLPMFTFTEL EKTTLKFIWNQKRACIAKTILSQ RNKAGGITLRDFKPYKATETK TASEMKYYLENKIPFKVLHMY YNVPTHPPFIGDLHPNTKVVS LPPNITSLIEPMNQGVISAFKDCY LRKTFVQAVATPEGETEMTVM QFWKDYNT

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3901	34269	A	3941	I	2580	MVKGSIQQEELTILNRYAPNTG APRSIKQVLSDLQRDLDSHTIM GDFNTPLSTLDRSTRQKVSKDI QELNSVLHQADLIDIYRTLHPK STECTFFSAPHRTYSKIDHIVGS KALLSKYKRTEIITNCCSDHSAT KLELRINKLTQNRSTTWKLNLL LLNDYWVHNEMKAQIKMFFET NENKDTAYQNLWDTFKAMCR GKFIALNAHKRKQERSKIDTLT SRLKELEKQEQLHSHKDSRRQE INAEKAFDKIQPPFMLKTLNLT DIDETYLKIIIRAIYDKPTVNIILN GQKLEVFPLKTGTRQGCRLSPL LFNIMLEVLARAIRQEKEIKGIQ LGKEEVKLSLFADDMIVYLENP IISAQNLLKLISNFSKVSGYKIN VQESQAFLYTNNRQTESQIMSE LPFTIASKRIKYLGIQLTRDVKD LFKENYKPLLKEIKEDTNKWK NIPACSWVGRINIVKMAILPKVI YRFNAISNKLPMFTFTELEKTTL K\FI*KQKRACIAKSILSQKNKA GGITLPDFKLYYYKAIVTKTA WYWYQNRDIDQWNRTEPSEIIP HIYNHLIFDKPDKNKKWGND LFNKRCWENWLAICRKLKLD FLTPYTKINSRWIKDLHVRPKT IKTLEENLGNTIQDIGMGKDFM TKTPKAMATKS\KIDKWDLIK KSFCTAKETTIRVNRQPTWK KIFTIYPSDKGLISRIYKEPKQIY

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3902	34270	A	3943	5	2130	QRLRRQHRLEQKTRSTTCHMR QSTTRSAERADTRIESMPT* TTP *HTDDVP/SHCTNSTHTATTSPS THNHQQTLTRVANVAQIRRTDI SSIAATEWISTINTHNYACRTRA VSQRRYVSDFEKRERPTSNTPE PRFRLVVSTPTLVGTTQGTYP PPARSRISIASHLLPPLSLLPSSL DL DGRSTLACSSSVSQFSGSRGS PSSYIVATTRVISDVEDYDMTTY YNSTITPIS/PSARS*QORSVHLL LSSHRTYRHPLVSRHTSQEHSL GGPLHRH*YNPVGSRAAAWAS KSALV/SVSLEALVVSALI*LVA TRQRLVGICRTTPIRARSSVVR* VTRYQPNQRAPLIHATYHLLDR GQHPQSMQTISHWTPPCWCL VCGKKSSLPCSTSSMSTRNQ YDTLSLTTSWVL*SSIFWLAFIL LPRTSLPWPTVS*LAANAISGS TPVNSSFRTSVRRSKLVVPANE IETPSFVVVTKFSRSASSYDCSIE YASTYAINITIVNSYVFA/PTHTT REHTISYALTSPGQPQNKTRIP LQWAF*AVRPSTQ/PSTVIYHAP TSQAIASCALHSLGCLLSAT APLPPTWTPPPPPQLRTT*STG SLPHPPSC*TRP*PLAPRN*PFTG MSSQHCPT*PQLASHSIALRG/S RARPTTSQTSIAS/SHSHS*LSHV Q*RPLSDQRSPLDHHAHSSILYA RASRISCLRVCAY
3903	34271	A	3944	254	884	MTPNYTSRLFLHMGVLFYFPYR RLT*HIRTHINLKGWK/NRHFM QMDTKNAEKALDKIQHRFMK TL SKISIQGTHFKIHKAIY GKSTT NTILNGEKLKAFPLRTGIKQGCP LLPLPFNIVLELLARAI RQEKEIK GIQIGKEEVKLT LFADDMI IYLE NSKDSSRKLPELIKEFSKVSRYK VNLHKSIALLYTNSDQAENQIK NSTSFTI
3904	34272	B	3945	52	843	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3905	34273	A	3946	1	831	MEMLYCLIAEAGHISSRMATNT ANSAGLKPTCVCVALPLPPGRS APHRSCSQAGRELPGQGPRYYR HLPQLSILHSIGEGQGC GFWSER SFKGYPERPAGAAGVCRLQGC GRRGRGAPFRTTDFSSRPRGAA ERADQGPRAGSPWPRTTSGAQ RGRAQQQGHTARRRGNSNPGP SRARQASRRRRPATSGPPRGSP RPDRPRRRSPFYRSSSRETSRPP EGPRRPAPALSAPAPGQPARP RPREVP CGAVFTARDRLRPPA ATSHAPFSAANPRR*HRPGGPG ARRLGDAQLSRRST/SGAPRCS QTRSR*PTCVCVALPLPPGRSAP HRSCSQAGRELPGQGPRYYRHL PQLSILHSIGEGQGC GFWSERSF KGYPERPAGAAGVCRLQGCGR RGRGAPFRTTDFSSRPRGAAER ADQGPRAGSPWPRTTSGAQRG RAQQQGHTARRRGNSNPGPSR ARQASRRRRPATSGPPRGSPRP DRPRRRSPFYRSSSRETSRPP PRRPAPALSAPAPGQPARPRP REVP CGAVFTARDRLRPPAAT SHAPFSAANPRR
3906	34274	B	3947	250	281	
3907	34275	A	3948	3	639	DHTCRLRQRLRLRVLVGPVPG AGPAG*KGCYGGRSANHHGAP ASCHLARSSCGPRLPGRYSAQQ PRARCAASGLCGWTAPAADPV PSEVLASQEVQLLCAGE*SGSC GPTHADLQPSPGGTGEDGAAR AKRDLPGSVGERAAAPASGRL RACPGRPAGAPGPRARPPGGTA ALAQPPRPQGAAARPPSGIGWP GNNGSAQSKGRALMEQAAG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3908	34276	A	3949	161	2377	SLFHGKVCHFLHEPLPLVYLSL CTGYQLFKPSLISWLEEEELST LPRVLQEWKMCLKTKGPALW QDNFCLKTLNGIQLARNQNGEE LYDCKQCEDVFCKHPCLKTNM STQNRGNTSECIQYAKDLLSLY NKTSTIRKVSFVSKHGKSFRLAF *MFRSRESVHKINPLK/CTDYGK AFIYQSYLEAHRKTQSGEKLENE WKQCGEAFTHSTSHAVNVETH IKNPYECKECKGDFRYPTHNLN NHMQTHIGIKPYKCKHCGKTFT VPSGFLEHVRTHTGEKPYGCKE CGKAFGTSAGLIEHIRCHAREK TFKCDHCGKAFISYPSLFGHLR VHNGEKPYEHKEYGKAFGTSS GVIEDRRSNTGQKRFDQDQCG KVFVSFSSLFAHLRTHHTGEKPF KCYKCGKPFTHSACLRIHMRTH TEERLYQCKKCGKAFTKCSYLT KHLRTHAGEKPYECMKCGKAF TERSYLTKHLRRHSGEKPYECK KCGKAFTERSDLTKHLRRHTG DKPYEYKDCGKAFVVSSSLVD HLRTHHTGYKPYKCNACEKAYS RSCVLTQHLKTHAAEKTSECN ACGNSFRNSMCFHDLTKTLTKI KPYKCKDCGKAFTCHSDLTNH VRIHTGEKPYKCKECKGAFRTS SGRIQHLRTHMGEKPFECQDQCG KAFA\FSQLVLHI*KHTREKPCG CEECKGTFVSSSLTEHVKIHR
3909	34277	A	3950	6	455	GLLHERQAEARCSICLDYLRHP MTTDCRHYI*SARIHQCW*ELQ DISPCPVCLQHCPDKNLKRNQF LCHMTDIAKQLTTARRKRKL QGEEPVCRKSDVALFCEKDPEL LCHQYRVSLDH*DH/SPMPIEQ AAAKHRKQFESYIEPLEKQV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3910	34278	A	3951	2	1009	WNGHRMN*MQSSNGLEWN/QS SNGKEWNHRIESNGIIIAWNQ WYQHQTENKNGIFENRRESSN GPEWNHVMENWNG/DNPWTRM QSSSNGIEWNHRMDSNGIIFQW NGNGNHRIGIEWNYDQISNEWI QWNQHQTENKNGIWKWRRESS NGPEWNHLMENW/ENNPWTR MQSSSNGIEWNRMESNGLEW NNH*TESNGSVESSDGNER/QS SSNGIAWNHHKMESNGINIKW NQMESWN/WN*MNRMELSSNG IEWNQHQTEKNGIIEWNRRESS NGPEWNHLMENW/ENNPWTR MQSSS/NWNRMESSNGLEWNN/ QLNGIEWNHHRMENMGIIIEW NRIELWN
3911	34279	A	3952	1	1494	MASLLGAPRLAGWASGAGALS RGWAIRPADTGGNLPVPRVPL PPDPVLTARWAPGVNSGSQFSC HCQAPILEMGHKGSSPGLGDAE VRAITVQCIRPIDGPQPPGGGS AGRRLTIPASTQEWALPVGRV LANVLTEGGDTGNQPIQRSLC RPQPCSHAETWGEVEAQVPAQ SNREQPAAAPGCGPGRGETGA RPETTFSPRRAPPNPYDEEGVR WSLEFMLCGTDGPVQPVQHQE GPAARLQLIRGGSLLILESEGLR G/SPVLQTDQPASHLLHTQGF A/AALSAVCL/HQNIHSGSALL APATRAAWEQIRSEGGTAQL LRRLEGYFSNVARNVQWTYLQ PFVIVTTNMILAVDIFDKFNFTG ARVPWFDAIHEAFPRELESSIF PANFFKPPEEKEGLVRPASRK TTPQTTRPGPGEREAPISR*KR HPDDTG*FTFTLGIVYCTPGQLP PEPYDPNRRSLWLPHPINTS MVSALVYSEGAPLPSPL
3912	34280	A	3953	1	681	MGQLLDKNTPSHGARTREECG RERLCVSPSQGTDPRTSAYLC VGGPAWSPLSESRPAGSSGCPW IKPPDPYSPIGLCSLLTTEMMS RQPRDLRGQTNPAAPVAPVPL SCSQNLVWPVSLMAGTTWHSP LSPSCFWHSPGHN*H*CCVSKD *KSLFWEPTA/YSPLLPSTSP/SS KSMQPPKPRSNADSSVQASLIP RAMSSPTVSPWIMGNGSQGFD HIAVSMWDD



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3913	34281	A	3954	136	420	RESRNLSRGEESDPAEPS\ RNG *EHPLCYLQ*EFLQVLTMLQAE GTMHHFRSICQVNRNFLERGH/ SPPSPAPPPETHTGSPRPPSGRSR IRAYLH
3914	34282	A	3955	1	1782	
3915	34283	B	3956	1	3070	
3916	34284	A	3957	104	279	STTHPSVHE/QEEEEEEEEEEEE EEEEEEEEEEEEEEEEERKKEC SKAQCKHFPLSEVL
3917	34285	A	3958	1	252	MTVCIHIASEDLPVGRDVEVED SDIHDRDPGLGDKSETPSE/EKK EEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEE NFLQHYLHL
3918	34286	A	3959	2	368	
3919	34287	A	3960	239	432	CLWLFQEEEEEEEEEEEEED*EEE EEE/EEEEEEEEEEEEEEEE EEEEEEEEEEKIFLGHVRGI
3920	34288	A	3961	1	577	MQIPSLHLKLEEEEEEEEEEEEE ERRRRIGRGREKKEEEEEEEEE EEEEEEEEEEKKKKEEKKKKEE EEEERRRKKKKKERKEEEEE/G KEEEEEGEEGEEEEEEEEERRK EEEEEEEEGEEEEEEEEESCLMGP MCVHIHP\DKDLYSLGPPAQR TGSHAELPT*KARRSSSWTAAS RGCAARDPPRRCSPA
3921	34289	A	3962	327	559	PKGRTSPSCIHYPCQTPRPHE P*GCHCPEEK/PRPRVWGPSRC MPLGSVQEKRPCAPGGVQGSF RVSPMLMLTRL
3922	34290	A	3963	1	577	MQIPSLHLKLEEEEEEEEEEEEE ERRRRIGRGREKKEEEEEEEEE EEEEEEEEEEKKKKEEKKKKEE EEEERRRKKKKKERKEEEEE/G KEEEEEGEEGEEEEEEEEERRK EEEEEEEEGEEEEEEEEESCLMGP MCVHIHP\DKDLYSLGPPAQR TGSHAELPT*KARRSSSWTAAS RGCAARDPPRRCSPA
3923	34291	A	3964	157	272	WCNGSPLYSGW*LVGMESLGR MHKDLWTRQPNQDQDLQ
3924	34292	B	3965	1	3723	
3925	34293	B	3966	1	573	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3926	34294	A	3967	3	424	AGGQALQGPQGGRGSQGVVG/ PGTGSSGAQHLGKHYPVLSGGS ERSWGRSHTPAGAGC*VRGRR AGGRPGTGHSRPPGGSCLSAP PNSARWLGLGAPWQAGAGLR DPGDWRRGQGGPGWAWCPGQ PPAQHTCPPNSTARY
3927	34295	A	3968	3	1238	RGAERRAWSRGPACTRRGPAD WAAAGAGRPCPQRRGVCCTAA VPGAARLSCPTGPGDPGRRS LTGQGS*GLGAFFGGWTGALP SWHS*SQGWQTDVPR*VRGTE RDICTGL*QPCPPGGLQTGSGG LEHSLPWPIGIQAP*GPNHPCR LPRS*ALSAGG\SGGQALQGP QGRGSQGVVG/PGTGSSGAQH HCCPPYTTPG*HPIPSLLALGPQ SLQPEWAHSGTASGEQHSAGE HMGTTGH*LPGLCSRCVLGK HYPVLSGGSERSWGRSHTPAG AGC*VRGRRAGGRPGTGHSRPP GGSCLSAPPNSARWLGLGAP WQAGAGLRDPGDWRRGQGGP GAWCPGQPPAQHTCPPAGS LPGAAPGVLCAA*GPAAGV*A GPGPGPGSRR*TRGPSPGAPRPA
3928	34296	A	3969	3	415	ETGRHRSQQSVSPPVQPRGKR AMYHSAELVSRGFPRPPVQAP AEPAGAAEGVHSQPASRQEA/G S/TEVRGQAHRFVSPNAAGAG DG/PDPQSLLAPTNRPCPPGGISP ARSEPVPPAPGRAAP*CFPDLP LAPPLC
3929	34297	B	3970	1	657	
3930	34298	A	3971	125	524	EAEALENQSQCPTDG/PQSAFSP PGSTQHPRSQLSQCKQRYQDLQ EKLLLSEATVFAQANELEK*RV ILS\GEPLLKQDSKQVQVDLQD LGYETCGQSKNEAEQEETTSPE HEEHSSRKEMVLVEGLCSEQG
3931	34299	A	3972	1	648	MGQVWGLVHFTLEVHTGDEE EQEYSEVTEDEVTEHVLPKA KVAKEEEAGIQARQEGDLEA WQFPVRIHPPDQQENITATFEPF PFKLLKELKQAINQYGPSPFV MGLLKNVTVSSQMIPTDGDPLT RACLTQAQFLQFKTWWADEAS IQAARNAWAQPQINITADQLLG VGGWAGLDAQFVMQDDAIEQ LRGVCIRAREK\IT*CGEQYPSF

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3932	34300	A	3973	350	1078	GSNRRSNRAEQLRGVCIRAW K\ITSGEQYPSFSIVKQGP TDFIAWLQESLKKVIADSA IVLWLLAFDNANPDCQAAL RGKAHLVDYIKACDGIRPAG RLSWLSLQGRPAGAARCTSS DWKAQLAPGPHAGPLRCPAF ARQPRLPAVLSAGAAFRDC CVQALLGGSAGPGDRLPGH ALVALSLPFVKEATMNRWS HRSAFFLFSANAHGAEGVLS VASR
3933	34301	A	3974	2	630	WDNCGLWFIPSWNLFTLM KESLMK*QKK*QSRFVCQL /PAKEGEVYPYPSAPPPYF WPDPPDLSFLEDAGQKVIAP VQAAPQAIALSSIAGIQQARR EGDLEAWQFPIRHPPDQGN ATFEPFPFKLLKESKQAINQ QGSPFVMELLKNVAVSSQMI DWDALAQACLTLTQFLQFK WADEVSIQAACNA
3934	34302	A	3975	264	634	WSSRCQHSSRPQASESWF PSFWPRIQGDEKTGAGGHP* C*PGMTGQGFSTKCQHTCL GSHWAQEAPENAPGTSCPG SWVLRSSLQRQKSAWSPG/AS PAPKMPFLTPSSGFS
3935	34303	A	3976	3	410	KKKVWREEKERLLKMTLE KEYLRDYIPLNSILSWKEEM QGPK*AEENTQETSQVKKSL VSLYRGDI/L*VDAIVNAAN LGGGGVDGCIHRAAGPCLLA CRNLNGCDTGHAKITCGYDL AKCEYN
3936	34304	A	3977	74	432	MLHNLRPRTLTTTRCPST TT*ATPPTTHGSAGPRAAHL RTGTRRWAPRRARSCTRSS RARAASTPPLAPARELRSP SCEQSAAPSGRNGGNFPES IVKTINSN

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3937	34305	A	3978	2	894	WGGYGMRTGPRTLTTTRTRCPS TPS*TTT*ATPPTTTHGSAGPRA RTCAAQRTSGSHPSQRTSSAA PGV*RANVFPWAH*MKRV*TT LENLTA/PEMAMPPAPHVIFAT DDWAAMVHPSARVPGLDGTG ALLVPTGVCAPGPCCKPLTSSS VTHTRLKTTLSVPPSARQTGRC RSPSDLRCSYPPDEQPVCVPC GSPWVSVLVAWIQSESAVLDP HPQHPYLYPVDQMQLLTNLGE PPQARALAAKLLGRPSSSQSGS RVPVWAQAGNATYITVHTLC SHNTHMSPVRVKRFTHLG
3938	34306	A	3979	157	570	
3939	34307	A	3980	1	936	
3940	34308	B	3981	257	3934	
3941	34309	A	3982	210	4286	MPLKTRTALSDDPDSSTSTLGN MLELPGTSSSSTSQELPFCQPKK KSTPLKYEVGDLIWAQFKRRP WWPCRICSDPLINTHSMKVS RRPYRQYYVEAFGDPSERAWV AGKAIVMFEGRHQFEELPVLRR RGKQKEKGYRHKVPQKILSKW EASVGLAEQYDVPKGSKNRCKI PGSI\KLDSEEDMPFEDCTNDPE SEHDLLNGCLKSLAFDSEHSA DEKEKPCA\KSRARKSSDNPKR T*L*KRATYNFEAH
3942	34310	C	3983	163	309	
3943	34311	A	3984	72	424	RNCGTARSQHEPLGSWLQDTP QPP*TLELAGNLPD/F*PGPGK EQGMFVCHPIRQPLRPLPGSSH QSMPTAQPLSSSSALLPALPAG FPVTQGGWTKLQVQAPAPFHL PPQVEAV*AFYQKQMLVPCSL* SMPTAQPLSSSSALLPALPAGF PVTQGGWTKLQVQAPAPFHL PQVEAV
3944	34312	A	3985	1	347	KWQRFVLTGIDTYSRYEFAYPA CHASTKTTIHGLMEFLIHGIP HSIASDQGTHLMAKEVRQWAH AHGIHWSYHVP\HHPEVAGLIER WNE\GLLKSQ\QHQ\LVNRLRRE LQCWLG
3945	34313	A	3986	1	1716	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3946	34314	A	3987	1	737	MSSVLLRLIYQLTQKTASFEQG PEQKALQQIQAAVQAALPLGPY DPANPMVLEVSVADRDTVWSL WQVPIGESQLGFWSKALPSSAD NYSPFERQLLACYWALVET LTMGHEVTMLPELPIMTWVLS DPSSYKAPMASWGVYPYQQLT EEEKTRAWFTDGSARYTETTR KWTAVAIQPLSRTSLKDSNEGK SSHQQAQNGITVLAGVIDPDYQ DEISL/LTPQWRCHPGSSVWRAS SLGISHPP
3947	34315	A	3988	2	384	CGRSGYWHSSVATKITRLRML RPREGKRLPPGDIMIPLN*KLRL PPGS/LLLLSHQAKKGVMTLAG VTDPDYQDEISLLLHNGGTGKS PHISDTFYGSKVASCQNTGPEK QDETQAQETAVYKSQIFGS
3948	34316	A	3989	3	1273	
3949	34317	A	3990	3	341	GLGRRQPAGSWPERRPGPSAIR RSTAPRRCGQAES*TERGSQPH QVQGQGRWGVCMKIPSHSGKS PDVSEVSKSRNSIISTAVTHAVV APEGLKRNGGGSHLRSSRGHR AVIF
3950	34318	A	3991	44	243	
3951	34319	A	3992	40	558	LGSIQVMQAVRNAGSRFLRSW TWPQTAG*QMTAPSSPPPPGL CSYSCPLSHP/SLPVTVRPWSPS FSSQQGRGQNA/APGPSAQALD SSKTLRPSRKLNRTRLPATPSSG EPHLDQPSGDPQPLTLARHPPES EPVNFQLCHLLSVGPYANKSEP QPSHLKMRIMLREVVRIT
3952	34320	A	3993	335	581	RRHLFLQWGQRAWRLQVAAA GTTRPTSAMGIRCSEGAAARAT AARA*TAGPEPLE/PAANPPPPPL TASALRAPPFVLPQCTR

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3953	34321	A	3994	216	1159	SWHGPPGANTVAAAAGPEE\K AALKLRPTHGWPVRATDVH ILKASGESEWRGGSRAHQMS VAMATALGEGVPVRGPAAGSL RLLPGSSAPLGRDAISSCNGVN GLETTGGRCRHNAPNKRHGDP LLEGAAAR/AQAARA*TAGPEP LE/PAANPPPPLTASALRAPPSF VLPQCTAAPRDPSAAGAAN*G KAQSRNC*NEPFAYGGGTHGT GAGAAVTVAADGN*LGSIQVM QAVRNAGSRFLRSWTWPQTAG PWSPSF/VFPAGSWPERRPGPS AQALDSSKTLRPSRKLNRTRLP ATPSSAFTLPFQERRAL
3954	34322	A	3995	1	738	MTKRGHGTAWAVASKSASPKP WQLPHSVPEVPGTEKSRIE LPRFQRMYGNTWMSGSSLLQG NQNLHAERYCNSTLERNDTPIE SLKPKRESEDGLGEHNGSTMEE VGAETRVQRHWVRVSMTELAL ASDAHMWGSNPGQRTGVMV GECGTMLGDTQVLLSNPCGDR ARRAYSTAPDYAVCGNGGKVK LNEQRFSTNKQGKAAYWME ALRPEPLCWQSNYPEAAAVGK PKAA YTKKLHGDS*AIPVVTE LGERIAQLLIMLY\KWKSEIK RT/G/GFGSTNKQGKAAYWME ALRPEPLCWQSNYPEAAAVGK PKAA YTKKLHGDS
3955	34323	C	3996	87	329	
3956	34324	A	3997	3	122	
3957	34325	A	3998	1	156	
3958	34326	A	3999	1	353	
3959	34327	A	4000	1	201	
3960	34328	A	4001	56	207	EEKKEKEKEKEKEK/EEEEEEEE EEEEEEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEEEEEE
3961	34329	A	4002	1	174	MNRC*RHIYSSNEVH*KEEEE EEEEEEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEEEEEE
3962	34330	A	4003	1	278	MTSYKFTEPKNGIWQLHEAAQ LDTTYNKLNKKEEEEE\EEEE EEEE\EEGEGEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEEGVIL
3963	34331	A	4004	144	429	DLPREEYALLPAGPRRRCRH RYEPNPEFGAKHSCPA*HRAA PATSDTQE*HRSNAFGEEEE EEEEEEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEEEEEE

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3964	34332	A	4005	3	122	TEEEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEE
3965	34333	B	4006	1	300	
3966	34334	A	4007	1	1226	MPSSKGVHVHSPPRYLAAKDF KMINKELTAATFMEVIAEDNRF IYDGIDSNFEPELVFLEFFEALLS FAFICVTDQMTKSYTNVPADD VSGNKHETIYTILNQDAQNKSP SAVMSHESDAAHSDSARSSSSK LELSPDVNKIRKSEAMVKEKKK ADKKGEKSARSPPSSLSNLDLS KQDGNTRQEMSPAGVPLLGM QLNEVKPKKDRQNVQQNEDAT QYEEISILTKLIVESYEKEKVRGL YEGEGFAAFQGGCTYRVSCPFE NLQEGEEGRLCCECPDEPRRVH VAGRSMYEGEVVNGMRNGFG MFKCSTQPVSYIGHWCNGKRH GKVGEVATWRAEKKKKEEEEE EEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEE EEEEEEEEEEKIRP
3967	34335	A	4008	453	705	LLSIVQAEAVSENSHPILPRVSR SGWGQKEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEGRRRRRSP SCYSITPELSCKLGHR
3968	34336	A	4009	93	705	ESSTQTCSGFWTGCTALHRWR GMPERCPPESTRDS*TRFPQSSLP GHKT/SEKEEENRKEEEEEKE KEK/EEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEQEEEDDEE EEEEKSCSVNVSLIELPWDPKA YSRLAPLSSQPGPAVKVPTEHLI AKLEDCVQGFTYLTVEKRWAR AVTGAQELGVDYPRNEKCKPH NNGYDND
3969	34337	A	4010	1	3189	
3970	34338	A	4011	1	5127	
3971	34339	A	4012	209	3816	QGRPTFRFRKYREHHKDTFREE QLQDT*SSDSPKLK*RKKC*GQ PERKVKLPTKGSPSD*KRISRQ/ KTLQARRQSWFFEKINKIDRPQ ARLIKKREKNQIDTIKNDKGD ITTDPTIEITIREYYKHLANK LENLEEMDKFLDTYTLPRLNQE EVESVNRPIGSEIEAITNSLPTK KSPGPDGFTAIFYQRYKEELVP FLLKLFQPIEKEGILPNSFYEASII LIPKPGRDTTKGNFRPISLMNI DAKIL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3972	34340	B	4013	1	3570	
3973	34341	A	4014	1	2347	MELKTKARELHDECTSLSSRFD QLEERVSVMEDEMNMNLPK KSPGPDGFTAIFYQRYKEELVP FLLKLFQSIEKEGILPNSFYEPSII LIAKPGRDTTKKENFRPISLMNI NAKILNKMLANQIQHIKKLIH HDQVGFIPGMQGWFNIRKSINV IQHINRTKDKNHMIIISIDAEKAF DKIQQHFMLKTLNKLVLVLA RAIRQEKEIKGIQLGKEEVKVSL FADDMIVYLENPTVSAQNLLKL IGNFSKVSGYKINVQKSQAFLY TNNRQTERQIMSELPFTIASKRI KYLGIQLTRDVKDLFKENNKPL LKEVKEDTNEWKNIPCSWVGRI NIVKMAILPKVIYRFNAIPIKLP MTFFTELEKTTLKFIWNQKRAC IAKSIFSQKNKAGGITLPDFKLY YKATVTKTAWYWYQNRDIAQ WNRTEPSEIMLHIYNYLIFDKPE KNKQWGKDSL FNKWCWENWL AICRKVKLDPFLTPYTKMNSR WIKDLNVRPKTIKLEENLGITI QDIGVGKDFMSKTPKAMATKA KIDKWDLIKLSFCTAKETTIRV NRQPTTWKIFATYSSDKGLISR IYNELKQIYKKKTNNPIKKWAK DYNRHFSKEDIYAAKKHMKKC SSSLAIREMQIKTTMRYHLTPV RMAIIKSGNNRKIQ/GGIWCD RIL*R*TTCRVAKEIQL*RRI/W KRLQRTLSIPVLDAV*PPMF*AS
3974	34342	A	4015	1	5073	
3975	34343	A	4016	1	3297	
3976	34344	A	4017	1	3514	MELKTKARELREECRLSRSCD QLEERVSAMEDEMNMKREG KFREKRIKRNEQSLQEWDYVK RPNLRLIGVPESDVENGTKLEN TLQDIIQENFPNLRQANIQIEI QRTPOQYSLRRATPRHIIVRFTK VEMKEKMLRAAREKDRSTRQK VNKDTQELNSALHQADLIDIYR TLHPKSTEYTFSSAPHHTYSKT DHIVGSKALLSKCKRTEIITNYL SDHSAIKLELRIKNLTKSRSTTW KLNNLLNDYW



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3977	34345	A	4018	1	2666	MVKGSIQQEELTILNIYAPNTG APRFIKQVLSLDLQRDLDSHTLI MEDFNTPLSTLDRSTRQKVNK NTQELNSALHQADLIDIYRTLH PKSTEYTFSSAPHHTYSKIDHIV GSKALLSKCKRTEIITNYLSDHS AIKLELRIKNLTQSRSTTWKLN NLLLNDYVVHNEMKAEIKMFF ETNENKDTTYQNLWDAFKAVC RGKFIALNAYKRKQERSKIDTL TSQLEKEQEQTHSKASRRQE ITKIRAELEIETQKTLQKINESR SWFFERINKIDRPLARLIKKKRE KNQIDTIKNDKGDITDPTEIQT TIRESYKHLYANKLENLEEMDT FLDTYTLPRLNQEEVESLNRPI GSEIVAIINSLPTKKSPGPDGFTA EFY/PESYL*QTHRQYHTEWAK TASIPFENWHKTGMPSLTTPIQH SVGSSGQGNQPGEGNKGYSIRK RGSQIVPVCRRHDCLSRKPHRL SPKSP*ADKQLQQSLRIQNQCT KITSILIHQQQTNREPNHE*TPIH NCFKENKIPRNPTYKGCEGPLQ GELQTTAQGNKRGHKQMEHS MLMGRKNQYRENGHTAQGNL QIQCHPHQATNDFLHRIGKNYF KVHMEPKKSPHRQVNPKEQ SWRHHTT*LQTLQGYSNQNSM VLVPKQRYRSMEQNRALRNNA AYLQLSDL*QT*EKQAMGKGF P I**MVLGKLASHM*KAETGSLP
3978	34346	A	4019	824	3693	AWKGTTDRSTRQKVNKDTQEL NSALHQADLIDIYRTLHPKSTE YTFF/LAPHHTYSKIDHIVGSKA LLSKCKRTEIITNYLSDHSAIKL ELRIKNFTQSRSTTWKLNLLL NDYVVHNEMNAEIKMFFETNE NKDTTYQNLWDAFKAVCRGK FIALNAHKRKQERSKIDTLTSQ LEKEQEQTHSKASRRQEITKIR AELKEIETQKTLQKINESRSWFF ERITKSDRPLARLIKKKREKNQI DTIKNDKGDIT
3979	34347	B	4020	1	3765	
3980	34348	A	4021	1	4791	
3981	34349	A	4022	1	3297	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3982	34350	A	4023	1	3170	MVKGSIQQEELTILNIYAPNTG APRFIKQVLSDLQRDLDSHTLI MGDFNTPLSTLDRSTRQKVNK DTQELNSALHQADLIDIYRTLH PKSTEYTFPSAPHHTYSKIDHIL GSKALLSKCKRIEITNYLSDHS AIKLELRIKNLTQSRSTTWKLN NLLLNDYWVHNEMKTEIKMFF ETNENKDTTYQNLWDAFKAVC RGKFIALNAYKRKEERSKIDTL TSQKLEKQEQRHSPSRQ ITKMRAELKEIETQ
3983	34351	A	4024	281	3030	KPRLENYMKNAEASRADAINW KKG Y/LVMEDKMNEMKREGKF REKRIKRNKQSLQEIWDYVKRP NLR LISVPESDRENGTKLENTL QDIIQENFPNLARQANIQIEIQ RTPQRYSSRRATPRHIIVRFSKV EMKEKMLRAAREKEIQTNIREF YKHRYANKLENLEEMDKFLNI YTLRRLNQEEVESLNRPIRGSEI VAIINSLPTKKSPGPDGFTAEEY QRYKEELVPFLKLFQSIEKEGI LPNSFYEASH
3984	34352	A	4025	1	3290	MGELITPLSTLDRSTRQKVNKD TQELNSALHQGDLIDIYRTLHP KSTEYTFPSAPHHTYSKIDHILG SKALLSKCKRTEITNYLSDHSA IKLELRIKNLTQNRSTTWKLN NLLLNDYWIHNEMKAEIKMFFET NENKDTTYQNLWDAFKAVCR GKFIALNAHKRKQERSKIDTLT SQLKELEKQEQTTHSKASRRQEI TKIRAELEIETQKTLQKINESR SWFFERINKIDRPLARLIKKKRE KNQIDTIKNDK
3985	34353	A	4026	1	3573	
3986	34354	B	4027	1	4251	
3987	34355	B	4028	1	3065	
3988	34356	A	4029	965	4089	TWKGTTSTSRCKIMPKYRSTRQ KVNKDTQELNSALHQADLIDIY RTLHTKSTEYTF/LAPHHTYSK IDHIVGSKALLSKCKRTEITNY LSDHSAIKLELRIKNLNQSRSTT WKLNLLLNDYWVHNEMKAE IKMFFETNENKDTTYQNLWDA FKAVCRGKFIALNAHKRKQERS KIDTLTSQLKELEKQEQTTHSKA SRRQEITKIRAELEIETQKTLQ KINESRSWFFERINKIDRPLARLI KKKREENQID

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
3989	34357	A	4030	523	3981	
3990	34358	A	4031	1	3429	
3991	34359	A	4032	1	3156	
3992	34360	A	4033	2	4943	
3993	34361	A	4034	1	6747	
3994	34362	A	4035	1	3928	MAAWNLLLSYAYWGGLRKE DFHCLDRKTLRTVSFLAALLSY ESIGGKGKLTTRKDIYTENPSV HHHHQRPKVDKTTKMGKKQN RKTGNSKMQSASPPPKERSSSP ATEQSWMENDFEELREEGFRRS NYSELREDIQTGKGEVENFEKN LEECITRITNTEKCLKELMELKT KARELREECRSLRSRCDQLEER VSAMEDEMNMKREGKFRDK RIKRNEQSLQEIWDYVVRPNLR LIGVPESDVENGTKLENT
3995	34363	A	4036	1	3638	
3996	34364	A	4037	3	3585	SNSHITILTLNVNGLNAPIKRHR LANWIKSQDPSVCCIQETHLTC RDTHRIKIGWREIYQANGKQK KAGVAILVSDKTDFKPTKIKRD KEGHYMMVKGSIQQEELTTLNI YAPNTGAPRFIKQVLRDLQRDL DSHTLIMGDFNTPLSTLDRSTR QKVNKDIQDLNSALHQVDLIDI YRTLHPKSTEYTFFSALHHIYSK IDHIVGSKALLSKYKTTEITNC LSDHSAIKLELRIKLTQNRSTT WKLNNLLLN
3997	34365	B	4038	877	8907	
3998	34366	A	4039	1	450	QGSPSGSRE*NSQSSAGPQCALP PAMA*VPLSWRSMGKWWKRT SCTSDST*PPSERRHWSRKSPS AMPASFRCSSASAREMLP*KKG RCAAGSGIAPGPPETWGRGTGGC PGKQATCGVSGPNANGEPVL/K YPSSSSEAHGGPGRNGRSD
3999	34367	A	4040	2	522	
4000	34368	B	4041	102	186	
4001	34369	A	4042	2	5417	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4002	34370	A	4043	45	1585	KQPSGLLKFGNLILKCHPPSLTH MLSQPCAIEAPTPDPNWELALY IHPSSGIMSATVSFWSIGTAIYLE AQGIWEP\FRRRLSFEASNPPFD VGRPFDLRRIVGISSEGNLNTLS CDPGHSRGFCGAGGSSSRPSAG SHKQ*GPSGHPHSSHSNRNSAD VDDVRAYNsGRTSSMTSAQAA SSQPANKTRPLVLDSNTGAQGH SAGRKSKGAKQSQHGSQHHAH SPLEQHPQPPLPPPVPQPQEPQP ERLSPAPLAHPSHPERASSARHS SESDITSLEAMDKDFDHHDSP ALEVFTEQPPSPLPKSKGSTEGG PASTFTQAVDGGIQFFTDCWTE GPSSSLLAVAREVQLALCIHELL IHGFSQLQVSGGPGAMPDPAAH LPFFYGSISRAEAEHLKLAGM ADGLFLVRQCLRSLLGGYRQLN GTYAIAAGGAHCGPAELCEFYS RDPDGLPCNLKPCIPPSGLEPQ PGSSTACETPWARPRSRPSSARP RRWRSSLLRRTTSGCPGTAA
4003	34371	A	4044	1	1773	
4004	34372	A	4045	1	663	MALWTLRPTPLLVTCLICAPG VMGAVVAPLTILGGPLLIRAAW YTAGIVGGLSTVAMCAPSEKFL NMGAPLGVGLGLVFVSSLVDQ MGRWFVAGGAAVGLGALCY GLGLSNEIGAIEKAVEYWFNSF VCHSNQQNACSHLHDERLLG DMGLPILHAMLLRRLPSVDSQN ALSSIMLLHTALP*QSAERLFS* TS**EALG*YGFAYPACNASAK TTIRGLTECLIQHHTPHSIASD QGTHFTAKEVQQWAHAHGIH WPYHVPHPHPEAAGL
4005	34373	B	4046	147	330	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4006	34374	A	4047	485	1568	GEGYKADLAAATVECPICQQQ RLTLSPQYSHIPQGDQPTTW*Q VDCIGPLPSWEGQRFVLTGIDT YFRYGFAYPACNASVKTTIHGL TECLVHHHGVPHGIVASVQGTH FMA*EVQQWAHAHGIHWSYH VPHHLEAAGLIEQWNGLLMSQ LQHQLGDNTLQGWGKVLQKG VYALNQCSIYGTVSPARIHGSR NQGVEVAPLKITPSDPLAKCLL PFPKALHSACLEVLVPEGGTL PGDTTITPLNWKRLRPPRHFG LLPLSQKAKKGATVLAGVIDPD YQDEISLLHIGGKEEYAWNTG DPLGRLLVFPCHVIKVNGLQ PNPGKTANDPDPSGMKV*VTP GKKNPRPAEVLAEGK
4007	34375	B	4048	182	662	
4008	34376	A	4049	1	2250	
4009	34377	A	4050	1	1326	
4010	34378	A	4051	1	1614	
4011	34379	A	4052	1	2586	
4012	34380	B	4053	1	1954	
4013	34381	A	4054	1	705	
4014	34382	A	4055	1	1833	
4015	34383	A	4056	1585	4128	
4016	34384	A	4057	1	1425	MARG/NAITLPV/CGRAVKFT/L EVLRGDSVEKTSRVWSGNERD QELLTEDALDDLIPSFLTGTGQQT PAFGRRVSGVIEIADGSRRRKA AALTESDYRVLVGELDDEQMA ALSRLGNDYRPTSAYERGQRY ASRLQNEFAGNISALADAENIS HKAHKYFVFEANTGTETGYQG EESLFNKAYYGGGTNFFRKESQ KLQSSAKKRDAELANGALGIE LNNDYTLKKVMKPLITSNTVTD EIERANVFKMNGKWDFAFGT TIKQDFRLLGQTSVDRLLQLSQ GQAVKGNQLLPVSLVKRKTTL APNTQTASPRALADSLMQLAR QVSRLESGQSSKQKKAQTAI RKNKEANAVLARLNSELQQQL KGFADFREPIKQDFRLLGQTS VDRLLQLSQQAITELCGAKRV GYFGPTQFYIALKLIAAAQSGLP VRIESIKCGNSYDHDYEFELGTL VLPRSLEGFALSNCGEHYWL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4017	34385	A	4058	1461	2496	NKRNHQSVCHAFIRIPAAPMV DSLIARVGV MARGNAITLPVCG RDVKFTLEVLRGDSVEKTSRV WSGNERDQELLTEDALDDLIPS FLLTGQQTPAFGRRVSGVIEIAD GSRRRKAAALTESEGTPAFGR VSGVIEFADGSRRRKAAALTES DYRVLVGELDDEQMAALSRLG NDYRPTSAYERGQRYASRLQN EFAGNISALADAENISRKIITRCI NTAKLPKSVVALFSPHGELSAR SGDALQKAFTDKHEELKQQAS NLHEQKKAGVIFEAEVITLLTS VLKTSSASRTSLSSRHQFAPGA TVLYKGDKMVLNLD RSRVPTE CIEKIEAILKELEKPAP
4018	34386	A	4059	340	2067	
4019	34387	A	4060	1	1959	
4020	34388	A	4061	1	2319	
4021	34389	A	4062	1	1587	
4022	34390	A	4063	964	1757	GYSKSKPDVITLLEQGKEPCVV ARDVTRRQCPAAPMVDSLIAR VGV MARGNAITLPVCGRDVKF TLEVLRGDSVEKTSRVWSGNE RDQELLTEDALDDLIPSFLLTGQ QTPAFGRRVSGVIEIADGSRRR KAAALTESDYRVLVGELDDEQ MAALSRLGNDYRPTSAYERGQ RYASRLQNEFAGNISALADANN ISRKNITRCINTAKLPKSVVALF SHPG/ELSARAASQRQCGYHK LHDKQRLLRG*KGNICAKLLNE
4023	34391	A	4064	1	1554	
4024	34392	B	4065	1	1599	
4025	34393	A	4066	1	682	MKRAPVIPKHTLNTQPVEDTSL STPAAPMVDSLIARVGV MARG NAITLPVCGRDVKFTLEVLRGD SVEKTSRVWSGNERDQELLTE DALDDLIPSFLLTGQQTAFGR RVSGVIEIADGSRRRKAAALTE SDYRVLVGELDDEQMAALSRL GGATQAFKENNQKHTTKRT ASLILHAMICCRSLNSSKTKNT KCLNSINQRLKILSLQKDL MCG TAGRCKTLTEQ
4026	34394	A	4067	1	2448	
4027	34395	A	4068	1	2541	
4028	34396	A	4069	1	828	
4029	34397	A	4070	1	1899	
4030	34398	B	4071	1	1686	
4031	34399	A	4072	1	1437	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4039	34407	A	4080	368	1449	LKSTNLITFLRLFVPQMPLAYM KFTPSGLVAACAPWLRQRRVV QLGQIAFSAP/YLSQMVRQEMY NRYGESAYEDGYRIYTTITRKV QQAQQA VRNNVLDYDMRHG YRGPANVLWKVGESAWDNNK ITDTLKALPTYGPLLPAAVTSA NPQQATAMLADGSTVALSMEG VRWARPYRSDTQQGPTPRKVT DVLQTGGQI WVRQVGDAWWL AQVPEVNSALVSINPQNGAVM ALALNNARPWYLGAQPRDSTI IFCQFGAHPLLDPKTQPVGCRN AARKSCAEIRLVPDARANSGL VRRYRKYRRQYHKSRSRHOPL RQQQPVRDLWRNVNDQYALT TRFLYQSLQRHAQLNVPLFHV
4040	34408	A	4081	1420	1842	
4041	34409	A	4082	407	1347	GRIRVHIHKDGRADGGSQPGVT AIQQQLPFAFAFPN*SY*TESAW AQSIK/GPWWLRDQVDGPAGR LAALPQR/SLINAVSTRMEGISG AFNTANPACST*FLCSLLILPSLF STALPNFRLSAMVSDCTISNMV WST/SAVTDWSTPLD*ERKHR GTARLTGKGVGMDRDKQVST LFLGFCYAHLQWNEDVFIARH VHLHIALFLDQRAQTASYLQYH IFFARFVFPHRTGVFATVARLK HNDNRTIAPCFTRLWTTLRWR HLLFEVAFVVILQQRQQRVLHI LCIGRIEVHHQTLFKPGDRRKG KQLRFYVLL
4042	34410	A	4083	1	649	MRHGYPARANVLVKVGESAW DNNKD YRYAKALPTYGPLLPA AVTS/ANPQQATAMLADGSTV A/LSMEGVRRWARPYRSDT/QQG PTPRKVT DVLQTGGQ/IWVRQV GDAWWLAQV/PEVNSALVSINP QNGAV/MALVGGGDFNQSKFN RATQALRQAGAHLPASQSGH HQQTAR*KSNFCARM*TPDQLS W**KNCPFRLSPT*QRQWSLRR YRPVSQRTSF

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4043	34411	A	4084	2	551	WRAAGPEPCPTGRQLRP/AGDL ACSAAGPGAEPFTAPLALAGR SKCGAAEPAPTQNSRWPMSPH LSLHASQAEGAGSGL/VPAPR AAAG*RAPQMRP/VVGAEAE APGP*EPCRHPAPHASQHRYG HPS/AAEPCRHPAPHASQHRYG CHPSGLNPAGTQHPMPASTGTA AIHRG*TLAPSSP
4044	34412	B	4085	1	1029	
4045	34413	A	4086	1	2157	
4046	34414	A	4087	1258	1838	TQVVFITSAWGLGEMVVQGA NPDEFYVHKPTLAANRPAIVRR TMGSKKIRMVYAPTQEHGKQV KIEDVPQEQRDIFSLTNEEVQE LAQQAVQIEKHVYGSPMD/IEW/ AKDG/HTGNHGVQALRNRCPE ARQHRMRIPGRILPRPIGRMAG PKTRIEHTSVTVISNRRKIKTEN RGHKGYEDRKLHEDLQLRHQS
4047	34415	A	4088	2806	3540	
4048	34416	B	4089	1	1251	
4049	34417	A	4090	341	946	GLSSVGQSVNDHLPWT*GLSSV GQSVNDHLPWT*GLSSVGQSV NDHLPWT*GLSSVGQSINDHLP WA*VLSSVRQSIDDHLPWT*VL SSVRQSIDDHLPWT*GLSSVGQ SVDDHLPWT*GLSSVGQSIDDH LPWT*VLSSVRQSIDDHLPWT* GLSSVGQSVDDHLP*M*GLSSV RQ*VT*AKVNPKISAVTRNRGS VESPHLEGRSLKVQVFIPQVED MSWGPPWLWVEGESWT
4050	34418	A	4091	426	706	VLGGGSEEKAPLWWSGPMVLP GAHSMKT*LPHTHVEFGFACLA SAGAQDVGMGPRHTTENSVT GSPSHFPPRASQHRRGICRPHAG RATADF
4051	34419	A	4092	596	905	GLSSVGQSIDDHLPWT*VLSSV RQSIDDHLPWT*GLSSVGQSVDDHLP WT*GLSSVGQSVDDHLPWS*G LSSVGQSVDDHLPWT*GLSSVG QSIDDHLPWA*VLSSVRQSIDD HLPWT*VLSSVRQSIDD/HSSMD VRSV*CRTISR*PSSMDVRAV*C RTINR*PSSMDVSAV*CKTINR* PSSMDVRSV*CRTISR*PS\P*T* GLMSLIPSQLCGLSAVTPFSAV TRNRGS\ENHPILKAAASRSKSS FPRLKT



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4052	34420	A	4093	3	1194	SLGPRSHSCCRSDYRSGTTVPL VLLPVCVGPALLVFALLSPLCV VCSALCGGLLPVLRASLFLWCV AFLAGLVFVFGFAFFGSLVRGR FLVVVPFFLLFALCRLFLVCW LRSFGACPVSVCVAGFACFAGL FLVLVSLSSGFGFRLSFSCVVG SLCLPGFAFRAFCLFFLPCVGP LLAFPGFCGPSSPSLSYGGFLAP WSCALLGFFGCLGWSAPGFLSS FGLSVRVLSLPCASGLRSLSGC ALVPGLFLPWVFSRSLRPLVSF GCLLCFVSHNMDWIKESVAG KVIQGNP*WLPVILFFGSVPLTS KAATAKPLMRMG\RALTVSQL T/AVASFAAVYGLFILPT*PTLV GAVQMDDTGTTTRIGKLVSNHP FFIRVLLGVALTVCFGFVLGSF
4053	34421	C	4094	70	1950	
4054	34422	B	4095	262	4347	
4055	34423	A	4096	2	458	
4056	34424	A	4097	2	445	QPTERGLCASLKPSRAAIKSQSS KVISFDSMSHIQGTVVQGVGSQ GLEQQYRSGVAVFRLHSFSHRL LSACEFSRCRVQAVSRSIILGSG RWQPPSHSSTREWPSGHTVWG LQPHISPLHCPKDSL*GLCLCN KLPPENLGFSYVL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4057	34425	A	4098	1	2589	MVWFLKNVNHGTHTNAKKYN DVENKERTGWK WGSTEYLLCA RPLRKGNVGLSGDVFLTVFVM KTGHSSLLPSTTTSDSTAQEGY ESRGGMLDWKHLLDSPDSTDP LGAVSSHNHQDKKAMLKDGE RPFNEPGVFHLLADHQLTQKV ASIPGSVCA YDMLDIASVFTG RFKEQKSPDSTWTPVDERVPK PRPGCCAGSSSLERYATSNEFPD DTLNFIKTHPLMDEAVPSIFNRP WFLRTMVRYRLTKIAVDTAAG PYQNHTVVFLGSEKGIILKFLAR IGNSGFLNDSL FLEEMSVYNSE KKWSTAKPVRVTIILNPGQASF CITLRETVC*RRKHIWCPPYRC TLQ*HFCPCH\CLSGKETLCRV T GGMKVKADRDESLPYAAMLA AQDMAQRCKELGITALHIKHR ATGGNRTKTPGGA\SRPSSPCP LGCLK/WQTLFPRRLRWPOGG RRKRSQLEAQRVIRESYLKGH D QLVPVTLAIAVILAFVMGAVF SGITVYCVCDHRRKDVA VVQR KEKELTHSRRGSMSSVTKL SGL FGDTQSKDPKPEAILTPLMHNG KLATPGNTAKMLIKADQHHL D LTALPTPESTPTLQQKRKPSRGS REWERNQNLINACTKDMPPMG SPVIPTDLPLRASPSHIPSVV VLP ITQQGYQHEYVDQPKMSEVAQ MALEDQAATLEYKTIKEHLSSK
4058	34426	B	4099	1	1299	
4059	34427	A	4100	95	502	FPEIPQSCREGAPGPAKPGG PRA REPCPNRTAASWGVHCE DGGS TVRTGGPL*GRGVHREDG ASSP QHPPRRGRGLGHLGPRPL* GQG DAAAAPGHRGKS/GGKGFL PAL RVQRGERGRVSRRAVCMW TSL CASVPS
4060	34428	A	4101	2	653	DSFGMSVLIKNPRTLFGGK PY VCRECGRGFTWKSNLITHQ RTH SGEKPYVCKDCGRGFTWKS NL FTHQRTHSGLKLYVCKECG QSF SLKSNLITHQRAHTGEKPY VCR ECGRGFRQHSHLVRHKRTH SG EKPYICRECEQGFSQKSHL IRHL RTHTGEKPYVCTECGRHFS WK SNLKTHQRTHSQVVKPYVC LEC GQCFSCLKSNLNKHQ\RSHT GEK

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4061	34429	A	4102	8	389	LPASASQSVGTTGVISFENTCNI CHFFFLLLFFSSSSFFLPSFS FRVSLF*IQPLKTTASTVQGRQH SGGYRASPERRADQRAHTGEK P/YVCRECGRGRQHSLSLQSV YPHSFWTQDKRSNH
4062	34430	A	4103	1	740	EGKRGRPFRIIPRAHPFHELQS RLCILKPLHHPTSSCPSS*TPVA PLPSHPCAPH/SARSCPVSDEAA LP*SMALWARAGLLEAPTLL PAAPDASSPA/MPPSRKLPPPLP L/CPEPLGPSAAPSPPAPGPNA AARPLL/PPSPSAAPGRRPGA/R PVGPSRGP/PRNSRLRAPDVH TAPMRCLPSVRPPLPVLSAL/PD PLPRPPSFVPSLPSP/PSSGPSCPP TSAPGSPRPGFVRLPCLLFWGS
4063	34431	B	4104	48	272	
4064	34432	A	4105	2	622	CPLSPLLFNIVLELLARAIKKEK */LKGIQIGEEVKSLSFGDDLIV YLENPKYSSKKLLELVNEFNKV SGYKIYVHKSVALLYTNSDQAE NQIKNSTPFTTATSSSSSSSSSP QGIFLTKRLKNF*RGKFKTLVK KNQGDPKKGKNPPGPKMGKN NFGKTPFWAKKI*KFHSIPKKT PPFFFQKLKKTGVKFFWAPKGP KGFLSKK
4065	34433	A	4106	39	1043	QKQPVWQRCREIGTLGYCGWK WTLDIHGRGHRILSGGVEIPGP WTEGFIQGRDVGELQEPGLSGR ESIH*\GKSYEYECSEDGEVFRV RASLTNHQVIHTAEKPYKCTEC GKVFSRNSHLVEHWRIHTGQK PYKCSECDKVFNRNSNLARHQ RIHTGEKPHKCNCEGKAFRECS GLTTHLVIHTGEKPYKCNCEGK NFRHKFSLTNHQRSHTAEKPYK CNECGKVFSLLSYLARHQIHS EKPYKCNCEGRAFHKRPGMA HLLIHTGEKPYKCNCEDKVFG KFNLTNHQRIHTGERPYKCNA CGKVFNQNPPLSRHRKIHAGE NSLRTLQME

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4066	34434	A	4107	3	941	QQHQQQQHVFVGQVAIQQQQQ QGPVQTNQALGPKPQGLMPP SSHQDLLVQQVSPRPQGPQG MVGPAQVGVQLQHQLHGALGP QGLH*QVFMPQSRVFSSPQLA QQGQGLMGHRLVTAQQQQQQ QQHQQQGSMAGLSHLQQLSLS HSGQPKLSAQPMCSLLQLLQQ QQLLS*QHLQQQQQQQLQQQ QQL*QPQLHQQQQQQLQQQQ PQQL\QQQHQQQLQQPQINSQ/HL FPSRRPPNHMGLLTHSPNLAS LRLTSTHKAALGPGQAALGHP KDGLLWKTGTWRARGLICG GIISYFTQHSWEVKVFTTL
4067	34435	A	4108	1	2255	MEKNKVVKREAEANSINLSVY EPFKVRKAEDKLKENSNDVLE NRVLDGKLSSEKNDTCLPGTAP SKTKSSSKLSSCSSAIMALSAKK AASDSCKEPVANSRESSPLPKE VNDSQARAPLQSTVMTNAVSP AELTPKQVTIKPVATAFLPVSA VNEMKTAGSRVINLKLANNNTT VKATVISAASVQSASSAIIKAAN AIQQQTVVVPAPSRANAKLVPK TVHLANINLLPQGAQATSELRQ VLTKAQQQIKQAIINAAASQPP KKVSRVQVVSSLQSSVVEAFN KVLSSVNPVPVYIPNLSPTNAG ITLPTRGYKCLECGDSFAVEKS LTQHYDRQSMRIEVTCHNGTK NLIFYNKCSLLSHARGHKEKGV AADTRGQKTCTICQMLLPNQCS YASHQRIHQHKSlyTCPECGAI CRSVHFQTHVTKNCLHYMRRV GFRCVHCNVVYSDVAALQSHI QGSHEVFYKCPICPMACKSAP STHSHTYTQHPGIKIGEPPIIYKC SMCDTVFTLQTLTYRHFQDQIE NQKLSVFKCPDCYLLYAQKQL MMDHIKSMHGTLSIEGPPNLG INLPLSIKPATQNSANQNKEDT KSMNGKEKLEKKSPSPVKKSV ETKKVASPGWTCWECDFIQ RDVYISHVRKEQGKQMKKHPC RHLCQHNRKHKGIRKVYACSH CPDSRRFTTKRLMLEKHVQLM
4068	34436	B	4109	1	411	
4069	34437	C	4110	54	146	
4070	34438	A	4111	1	1937	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4071	34439	A	4112	1	1830	MCIEVTCNHCTKNLIVYNKCNL LSQARGHKEKGVVMQCSYSIL KPVSAHGHIIVSPSSNSSSSSTLQ SPVGTGIHTVTKIQSGITGTVISA PSSTPSTTAMPLDEDPSKLCRH NLKCLKCNEIFQDKRSLATHFQ QAADMSGQKTCTICQMLLPNQ/ CQRJHQHKSPYTCPECRAICRK KRTQIHEWERETGKEISISFEKK SMETKKVASPGWTCWECDFLF MQRDVYISHLRKEHGKQMKK HPCRQCDKPFSSSHRLCWHNRI KHKGIRKVYACSHCPDSTGTFT KGLMLEKHVH*CMASRTLTK K*QTPPMRRKQK*K*TSRSAVP SGIVERTGSGVQASQRSNNSTT EKAENQCF*GSQAPLCCTQVKG TSASAQAKWGWRR*PTGEQTQ PRGRISQWVMSDRKCKVCAKT FETKAALNTHMQTHGHAEGCL KQPCRSLLSQPRIKTEARNLIRN ADFLNSILRNREGYSKEKNGT GFLGRSARLALGAQGGSWRF LFWVLLPNVLVLRVGMHDVN HRLINAAGCVSQLAVTLSTEPH GISSAISRVPRHCHPSGENSMAT SLNVNRSISRLAAGSGVLAMD PIPAGHRAIETGLLGTEDETEQ
4072	34440	C	4113	217	510	
4073	34441	A	4114	210	281	
4074	34442	A	4115	1	675	
4075	34443	C	4116	126	434	
4076	34444	A	4117	804	2061	WERREAGGEDEGINIH*VEE EMKKHESNNVGLLENLTNGVT AGNGDNGLIPQRKSRTPENQQF PDNESEEYHSLGDKSKTSFQNS NNNNNKQQEQQQNPTFSNTR KLTCLYKAPIPPSIILSGCPNIND SNWQIEHGMQTAGLPTRPLSH GLQQKGAAFRCLGCKCEPFTG SLILQKAKTNTQKWQATYPKS QNEQLVPSVGKSYRCSTPAQP MKTAVGHKPKCATGAELPKAL GAQPLHPCALDVGGQFKKGNF GAVGLNGLLGLFHVGVSGVLL VGPGDGLISEGVVREDLMCG VWSAGTWSVGTAERCLEKPGA LHVIEGPLDSWDGPVMPNGPV KSRQSSCLDGPGRCCSEILTGQS HGNKKPARASSKSSQSINDRPL AVLTNQYQCEQLASERQPSNS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4077	34445	A	4118	1	357	GKLMLPGSTRKPQVPVDRKMG HEGVFVWQAGLRARPGPSLPFS HGLTLHLHWPLALPV/GATSSP CEAGDLGV\PLAAGTWCPWEA *RQEEAGWQAPGRAGPARVG WGGTGLTSAEVIITI
4078	34446	A	4119	1	771	MLISHKQLSPQLLSLTLPSEK AGWAGECPNPPSKDSPVQIG/ GPPP/GYQKCR*DTASMLTMAP CHGPVCPHPGWRPRSGSRVIL PAPPGHHPWP\GPRARNGLGTF QGCSTGWQVQETCFPGGWL DRHLVGPAATGARCLPAARGP/ DGALHPAVPTGKLKGQPGPGA RHQRTYD*LPRPCGAAGLGSP A*HPISEETENQWGLHGPPQPA WARPDHGCQ/APTLSPSLKRKP GRVTAGGPMPCFSTSSVPTT
4079	34447	A	4120	1	402	MLISHKQLSPQLLSLTLPSEK AGWAGECPNPPSKDSPVQIGD LHQLPKMQIRYSIHADDGSVPR AAHKRGLRKRTLKTISLPRQES AFPFHGQGGDPGVVPGSSFLHP LGTTPGQGPRARNGLGPSRAA PPAGRGVAGGSPSGG\PAATGA RCLPAARGPVGPYTQQSQRAS* KGS LGPGARHQRTYD*LPRPCG AAGLGSPA*HPISEETENQWG LHGPPQPAWARPDHGRQPLRC HPP*RGSGGPQKAAVSQQIPR AGQEGTH*DPTWGPDPGDQG GPRESRGLQGGRGQCLCDWS PNTSEI*YPHA*NGD*KAGPPM DTKSQ LQVSTPKSPASHGEDVA RLEEPEASGD/RSVP\GLPGASLI PIWRPPFSRISVRTFLSPWNLL RDCGFLGTSLASSSGRVTA
4080	34448	C	4121	111	218	
4081	34449	A	4122	2	453	WWPVLSVPPECRLPGRLP SG*V RGPAPWWPEPASQDKSQLSSR GFP GKVSLGKGMAFSPLQTAP* KWLGLSPPLSSTENTASRGHTS PSSRNGFDSQPRDSRTGRECQA TQLPAQSHAEVLHFGGAMSG QLSLVGPQDSKRTARLTDSQ

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4082	34450	A	4123	1146	1775	KGWLEGAPEA*ERYPGIPPCVV CSLSDAPWVGHPAPSLGVI*EP NPP*SRGESQGPTSSICRQSSGD LG*KLESPIHTVIPRHTSQARQG HTAPFPFQVPS*LLV*LKAVSL APAEAP*PASGLHAPWPVAPRV TCAI/PAKGTTPVAGPAELRPVS PPPILLP/PDSRSSAFPSRKGPA SP YETCSPPTS*/EVPS*TYKSMGP GIRLPALPASPRVPSEGPGLSEH PEGPPALPPAIPFSSPSWFKQCS FSIRPGWLLHGAPQGGKWPQA SWVGKTG*PEKRGSPRGPEHSA LNLRVALPGVAVI*EGPACVGW GGPPQPPGAICEATAPPSI/VPPL SLPAPFPGTLP/PPTPAASP/PPAL PPLRRGRPRPCAALALPALSSL FS/PPVFSLLSLQLPADRVVRQH PVLRAPGPPFRPPKQIPSSSGDL PFPSLPGR/PVL*LEKWLPPAPK ASPPSSVNLILLVVVKLNTFRCG PLVKNLVPPSVVCPSPSYKYL *ILIYIHTLHMGQPPSPSSAGNQ SLCYPCGGLVAQPTKRTLVPPTI QLQSVPPP/KPPCHARPVDSQP PPSLPPPTKHGGAVQAAVWPDS FYPVLLSLG
4083	34451	A	4124	146	1701	TFLGYLETAHGPSAQQCPTGLF AFRSLGRGLLLTSLPKQPARSPP REDVPRSTTQEMTRPRHPPRKP AQPLGARRRGAPV/RGLSKSR ELNSGNTSDSGNSFTPPHPRTR GPCWRISPPPAGAESQGDAMLL ARMCQMPSLGLMSRTFPHSST GKARGFQSPCLECAEVKKSSLV PSTARSSPMKGCSSSSYASTRS SSHSSQSPNPRASPRVRTIITCIL *TRKRPRETKSSAKVTHYYSSK SGKRSPSRSSRSRSPSYSRYS PSSPNSPADIPQNSHPQPSASTD RPHIQSPQFLPTHQGLRNIHVLT PAAPALL*CPPANADTPAQAP PPLRY*QPSQTLTAAPSSSLRSP LRQRADPIP*PSGGAGSQIQ\WK DSQQRERERARRRRRSYSPMR KRRRDSPSHLEARRITSARKRPI PYRPSPPSSGSLSTSSWYSSSS SRSASRSYSRSPSRSRRRRSRT RTSSSSSRSPSPGSRSRSRSR SRSRSRQSRYSYSSADSYSTRR

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4084	34452	A	4125	1	1068	MLLLELNAPEHVLETINFQTLT AFCNTFHILRPTKAPGFVYAWL ELISHRIFIARMLAHTPQQKGW PMYAQLLIDLFKYLAFLRNVE LTKPMQILYKGTLRVLLVLLHD FPEFLCDYHYGFCDVIPNCIQL RNLILSAFPRNMRLDPFTPNLK VDMLSEINIAPRILTNFTGVMPP QFKKDLDSYLKTRSPVTFLSDL RSNMQVSNEPGNRYNLQLINA LVLYVGTQAIAHIHNKGSTPSM STITHSAHMDIFQNLAVDLDE GRYFLNAIANQLRYPNSHTH YFSCTMLVYLFGRRANSRPFQ EQITRVLLERLIVNRPHWPGLLI TFIELIKNPAFKFWNHEFVHCAP
4085	34453	A	4126	1	984	MQANLEMAGNGVTSMGMEPL AIPHIYCCSEGTCSNFSNTENHCL RAALSMLLNGTPFAFVIDLAAL ASRREYLKLDKWLTDKIREHGP SVHGLFPSRVLSPALGPGAFPG RHNCGSCVAPQSGLPGVHPVEL PWSISKLFRLRSPANFSDVLGSR SKVLLLMCTLKYCGMQLGADA TRVDMLTFLPTLGFI RNNDYTD DTKASELTELSHNLHAYDSVTG VPGDETECSKT VSTWAYTAESL QGYMAAKLLGRNLTVP SRYLF LNAIANQLRYPNSHTHYFSCTM LYLFAEANTEAIQE QIT/RLVRE RI*S*ANAYWHSEKFYQFTCEL
4086	34454	C	4127	1	399	
4087	34455	A	4128	1	868	MANVCNPSTLGGRGGRITRRPE DPGSPVYSVPPASYHPKPWLGA QPATVVTPGVNVTLCRAPQP AWRFGFLFKPGEIAPLLFRDVSS ELAEFFLEEVT PAQGGIYRCCY RRPDWGPVWSQPSDVLELLV TEELPRPSLVALPGPVVGPAN VSLRCAGRLRNMSFVLYREGV AAPLQYRHSAPWADFTLLGA RAPGTYSYHYHTPSAPYVLSQR SEVLVISWE\TLAPPTTPGGT*S AWGWPGWSSSPWARWSLLTG AVRTALLFPQVPHRATTPWVT SYDWVWLP
4088	34456	A	4129	1	270	
4089	34457	B	4130	39	919	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4090	34458	A	4131	3	466	GRALCPPRLLAAGRVLGPGRRS PG\PGPGVP/GG*R*GGAEP RPG APRGRVLPPSAGSGQFSAATPA QNGLPALRGPGRPGIRSKAVR PVPLGRVGVYFRDALRASGQS GRKLCCIGNTLSPSTFSVGKEVP RKHETNQKHEKGILCMEAVKP
4091	34459	A	4132	1	1647	MWRWLYAGARMTVRDKQPLE QMLAGCTHASLVPTQLWRLLV NRSSVSLKAVLLGGAAIPVELT EQARDMGIRCFCCGYGLTEFAST VCAKEADGLADVGSPLPGREV KIVNNEVWLRAASMAEGYWR NGQLVSLVNDEGWYATRDRRE MHNGKLTIVGRLDNLFFSGGEG IQPEEVERVIAAHPAVLQVFIVP VADKEFCHRPVAVMEYDHESV DLSEWVKDKLARFQHLVRWLT LPAEPKNGGIKFHVSAKRVGAL TTRMEAAQQHADDKIRQMINS EQRLSEQFENLANRIFEHSNRR VDEQNRQSLNSLLSPLREQLDG FRRQFRTASLMKVAGWDYLM NSLYNANSSALVNRVRYKWIA AFEGGFTGIVATLDTGRPGPVM AFRVDMDALDLSEEQDVSHRP YRDGFASCNAGMMHACGHDG HTAIGLGLAHTLKQFESGLHGV IKLIFQPAEE\VRVARGRWSMQ VS*MMLIILLPCTLALAYLRALL CAAVIILWQPPNLTRTSPVPPLT QAQNQKTVTMPCWRTSHSCT ACNRPAQRSSFQS
4092	34460	A	4133	864	1128	TGRSTIRRQRREPRRKAATLRF DRNGCRARCTPP\GRKEQRYQQ TADGDKGAEFYRRPEGVEIVA VMEQRDEVIQADKLAGETKRI DAL
4093	34461	A	4134	618	1102	HSNAAPTARSSFVQNTPSSCGY SRRAWRISSIPEETDRTSYRNIQ CGNHPPVPARLPAGQTGDGDIP PRPRWQSPQTAPRKPPDLP/LIR KNKIPMFRSATTQPLTGTLAK ASSSEVKAIIGARVKMTRSENF GIQSSLKNILIMSATSWSEPPQP TRLGP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4094	34462	A	4135	2400	3201	VGGGRNRSPGVACWVEDGNG DAVRDGWALDADWQASQAM RRKQQPEYWQHDAATADADR QMNMPV\LHRLVAGRAQEM NGAQGKTLKGWDEASARRG TKTED\FCEEDTRDDAMIAWM PR*PGVLPRAAWANVLNHGV GWKKAQLK\STWMPQVQQ*W RGD\KAANSNAAVAHTVLLN SGGDATQ/TAAFPISPLSV/EEV CVTMVIA*FWMWDSGSGGVVL CSSSGRSLTWSATKVRG/SGH KGRWCSRQGVTCQVRHGGHV APH
4095	34463	A	4136	118	1008	
4096	34464	A	4137	3	1140	KHTYMLSILKPVRTSALPPPAP AQTLCTQLSRVSSRL*DHPSR WGLR/PSTGMSQARACSPGSLG WMQRSSFTPGAGRVRHIPNSA GSTRRPACGSRSAAPVRPCRR TR*G/RSSVVERFMTALSLACR ALPGP*AAPGPSITRFTISAELK DTRL/PREHVPLVCTHAIAVPD RGAAVRPTRRRDAAAPPSPLVG DVTLQCPSQ*RGSNAPDQVRLP CVG*RPRSSLQRSGLSVFSADGS TSGPEPASGRKDAGWPARVLR GTLSRGAPEAGADWGPYSPGSP GAAASGAPWLGPQALQGAG GQLVGSENGERTGTKPRVSVS VAYGEIALPADTSWSSRAGAA VLLGLSRSTGGEGPGNMGHGG QSQMLTLEVL
4097	34465	A	4138	10	585	PLEMELNLISIEVWGERLGISTG TEKMPTLKHRTWPVECSKASSL EGDLRSL/S*LEVISAFSADPASA DDSPGCWKKKDDDCSMVHLHR QEWQQQCCQ*K*RKQPPGER RNKCGSHPVCGTVLWQP*QTH QISSCPTVGCPPSHSSFSILDGAN AGQEKQSTTEPEPALFLLPPSRG AFGPFGLLSDLRRQL
4098	34466	A	4139	1	474	
4099	34467	A	4140	458	612	ASCMASVDISVLTCMWRCTIEQ SSSFLCLLTPLWE*SWCHVTRIC PFISLG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4100	34468	A	4141	1	829	MGRPDLILSSILGLRWLLLPQSS RAGRGAIREASDAEQVTFSGG TVPARTSSGREWRSLLGPDME TSLFCIDTKTTFLLVYRYGDHIP LVPEQSGLEPLLIWADPGLFHV RLFHLLTIDDNFCGLDMNAPLG VSDMVRGIPVFTEDRDRMTSVI AYVYKNHSLAFVGTSGKLKK /VRSSAAP*VWDQDTPRSLGQQ GAQRQP/ILRQCVYTFQLN*RC PHSTARRELRTGGFIPTRSHQD GLRSAARCTQGTQ*ASWSCV HVCASVRAMCSYC
4101	34469	A	4142	5	237	NFGAMTRIR\DLPWEINPLSSCS SLCEKDPPTTSSPQTN*PKEHHT NFQSETGDEFYPWTQNFSTGHG LGKTVFPWCL
4102	34470	A	4143	1125	1190	
4103	34471	A	4144	306	573	RNFGAMTRIR\DLPWEINPLSSC SLLREKDPPTTSGPQTNQPKKH LTNFKSGKRPLLTLFSNLSHCP STFFFPFFNLISIPFIW
4104	34472	A	4145	1	329	ASHSWQTLQHSGRYSRSSG/SA GSPRDCAARAPTISPGCMAWL NLDSISPSSQSKASPLSQLTCPET SYTGCP*SAPHSPPPWCPQERC ACKGHCLHHRDGCCGYGYN
4105	34473	A	4146	2	336	SILTRKCKYGMIEPT/NIPGLGA AGPTGMFFGSAPSPMGGISPAM TPWNQGATPAYGAWSVSGSG MTPGAAGFSPPKA/PTYSPTSPG YSPTSPTYSLTSPAISPDDSDDE
4106	34474	B	4147	1	1260	
4107	34475	A	4148	150	335	SFQQSAPW*ASGQSCASDPAPP ATARGRFGPHQSQAFHSRHSPIP DLPPPCSGGWGHSRW
4108	34476	B	4149	1	3267	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4109	34477	A	4150	1528	2973	GKQIFSLIIPGHINCIRTHSTHPD DEDSGPYKHISPGDTKTVINNW LLIEGHTIGIGDSIADSKTYQDIQ NTIKKAKQDVIEVIEKAHNNEL EPTPGNTRLRQTFENQVIAVVGQ QNVEGKRIP*LPPPL*WGAGRR EGVG*CGRFSEHSRSSAAGYRG GRPCC\PSWEDDP/GAPDPAS AQIPAPTRSGCVRCSARPSGPP AECAAGPSHWYNQSGTSSQKP CWKA*AYPGSGTQSRGSGAR SHP**SEAESGA*SQMESACPRR SAVQRQQ*PDSQTSAAECSLG WAPAHCCVPSR*PLLRPAWPS* *CSECPGKS*NQQWSPQCQ*YD PNPQSTVVAEDQEWVNVYYE MPDFDVARISPWLLRVELDRK HMTDRKLTMEQIAEKINAGFG DDLNCIFNDDNAEKLVLIRIM NSDENKMQEVMGVLEVSVSHV
4110	34478	A	4151	459	940	HLPGGGVPGREGGSPDQHVAP GAVSGGAGGGSTRGRGSRRRR PGRPRPGPRQPRRGALPGGEHG LRASARCAARAQQRDPG/TPSC SSWACPTPRRPWAPAASSRLRR PPRGACATPPPCRPPARRTCTG RCPPSCCLCGSPTTWRRPPTG GALESPKRR
4111	34479	A	4152	264	1386	SSRCQPVCESGHPGYGQSPA/YT TAGRTESGGTGST/GDNHPLWP CI/GGAPCPAQNTPHLRV*RS ALALDSAGSSSPESPH*RASIPH TTLGQKRRSWAGTAHS\PMAPC AAASISTST*LSHHHSPAQSVC PSSH\TPSFCPIQKFHCFR/SPQR NTS*VVLCPPG*LRVG*WPSSG HDRSWYHTREPSVGN*HRSHQ RR*RGTAAPGPSARLQCPARG SRSSHAPASSRRPFGSTPAG LGFP SARFPVGKPVVPAALMNR PTRGERRFAYWAPGWFFFPVR RATADCPSP/SWP*ESCKRSTL VCPSRRKSCLMVVPKSAKSPVL AK/YGPVGHHDHGEHDVVLGE VQGKRPVAPTMTGTPKHKAVHP RAPH
4112	34480	B	4153	52	363	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4113	34481	A	4154	321	802	HLPGGGVPGREGGSPDQHVAP GAVSGGAGGGSTRGRGSRRRR PGRPRPGPRQPRRGALPGGEHG LRASARCAARAQQRDPG/TPSC SSWACPTPRRPWAPAASSRLRR PPRGACATPPPCRPPARRTCTG RCPSPCCLCGSPTTWRRPPPTG GALESPKRR
4114	34482	A	4155	15	263	CGRFSEHSRSSAAGYRGGRPCC \PSWEDDP/GAPDPASAQIPAP TRSGCVRC SARSPGPPAECAA GP SHWYNQSGTWKCKG
4115	34483	A	4156	3	518	SPSVGSGMTPGAAGFSPSAASD ASGFSPGYSPA WSPKPGVPGVP QVPSKPLKSLHPGGVVRHLSGQ VCFLHSSG*VCPLLISFVGCFPT GGAMSPSYSPTSPA\YEPRSPGG YTPQSPSYSPTSPSYSPTSPSYSP TSPNYSPTSPSYSPTSPSYSPTSG SYSPTSPSYSPT
4116	34484	B	4157	620	6763	
4117	34485	C	4158	430	870	
4118	34486	A	4159	1	3039	MDSETRRTAKVRLMTVLRDQ DRVSGVQAHPEQFQQAICPLCG VSLTRSGTTFGSPSEIYSPLGESR ASSGLPRRDGRLIGEPEPEKKFS RSPKGD/LSSGGQRIDYRVCVPT KFNL*VLSF*PRGQGAGGQSPG FSVRLLVLVWSSGTFV*NGK* QKLL*TLCECVHD*GVQGPASG SPVCSSTAKATEFEKDPSPGFSS SSLPLTPYISFSRV TASSASPLG SALTPQTLKRKGRI*AICL*VVE TPKVFR
4119	34487	A	4160	1	772	MVARAFLWSQVIRRLGRKGGL SQGDRGCNTALAEGRLDPLT RGHPALCLPRRPAPRPAEVRRE GEAEQPEAGQPPGAAPRRARD NGAAAAAAGGRLLQSVRPVV CPHPGPQASYGLRYIAKVLKNS IHEKFPDATEDELLKIVGNLLY YRYMNP AIVAPDGFDIID\MTA GGQNNSDQRKNLRSTAKVLQH AASNKLFEGENEHLSSMNNYLS ETYQEFRFKNVTFDIIATEDVGI FDVRSKFLGVEMEKVQLNIQ
4120	34488	A	4161	174	444	YHRHDSWRNTRR*\IKLDGKGE PKGAEESEATSKYTA AKLHEK GVLLDIDDLQTNQNAVNDFSV GPQDEVIVEDITNCYLCEIFKRY EWVT

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4121	34489	A	4162	379	520	GTSHRGASQRRCCPPLSKTGPK TPCGKGAPSAP*QGGLDVQGEPT GGK\GDSSGECVGGNVAGLHK GGGTRADSQVPGGMRGGRMS Y/GG/HLTAEGPMGRSGPR/GAV PSLYPPGFSGRSGCSRQYSGAHM PILTGHVGVSESSLDPPRAGQD RFLGTARP*GTSHRGASQRRCC PPLSKTGPKTPCGKGAPSAPFIP AGPTFDHKALM
4122	34490	A	4163	455	798	
4123	34491	A	4164	32	2109	WIGGCPGSQPDATAIMGWTLA PHSSRCHRCCHYRCHCRCLCP AEMTVGRPEGAPGGAEGSRQIF PPESFADTEAGEELSGDGLVLP RASKLDEVLSPOEEIDPTSDSTG SIYHTLLDLAQKGRWLSVWSLS FSLTQRMKTSCLKMRRTWRVS SKTRTGGWCRSSARRL*GVAPO GAA/DSLNNLPSNIPRPTQPPS GSRPPSQHRSVSSWASSITVPRP FRMTLREARKKAEWLGSPASF EQERQRAQRQGEAAECHRQF RAQPVPAHVYLPYQEIMERSE ARRQAGIQKRKELLSSLKPFSF LEKEQLKEAARQDLAATAE AKISKQKATRRIPKSILEPALGD KLQEAELFRKIRIQMRALDMLQ MASSPIASSNRANQPRTATRT QQEKLGLHTNFRFQPRVNPVV PDYEGLYKAFQRRAAKRRETQ EATRNKPFLRTANLRHPQRPC DAATTGRRQDSPQPPATPLPRS RSLSGLASLSANTLPVHITDATR KRESAVRSALEKKNKADESIQ WLEIHKKKSQAMSKSVTLRAK AMDPHKSLEEVFKALKENRN NDRKRAKEYKKELEEMKQRIQ TRPYLFEQVAKDLAKKEAEQW YLDTLKQAGRRKTL*ETRVKA PGLFKRKRPKSRIFPGSKKLQNS ASEIQSR/RLEGSLEQPASPRKV LEELSHQSPENLVSLA
4124	34492	A	4165	251	637	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4125	34493	A	4166	1	1344	PGRTRTTRSMADVFLSAPIPRGC ADGRDADPTEEHMAQTERNDE EQFECQELL*CHVQVGAPEEEEE EEEEDAVLVAEAEVAAGWM LNFLCLSLCRAFREGSRSEDFRRT RNSAEAIHGLCSLTACQLRTIYI CQFLTRIAAGKTLDAQFENDER ITPLESALMIWGSIEKEHDKLHE EIQNLIKIAIAVCMENGNFKG AEEVFERIFGDPNSHMPFKSKL LMISQKDTFHSFFQHFSSYNHM MEKISYV\NYVLSEKSSSTFLM KAAAKVVESKRTRTITSQDKPS GNDVEMETEANLGYKKKC*LT NSLR*LNPQRVQYPY*GSHKNL FLSKLQHGTTQQDLNKKERRV GTPQSTKKKKESRRATESRIPVS KSQPVTPKHKRARKRQAWLWE EDKNLRSGVRKYGEGNWSKIL LHYKFNNRTSVMLKDRWRTM KKLKLISDSED
4126	34494	A	4167	1	1345	IPGSTISCLKGQYPSEPFNMAED VSSAAPSPRGCADGRDADPTEE QMAETERNDEEQFERQELLE QVQVGAPEEEEEEEEDAGLV AEAEVAAGWMLDFLCLSLCR AFRDGRSEDFRTRNSAEAIHGH LSSLTACQLRTIYICQFLTRIAA GKTLDAQFENDERITPLESALMI WGSIEKEHDKLHEEIQNLIKIA IAVCMENGNFKEAEEVFERIFG DPNSHMPFKSKLLMISQKDTF HSFFQHFSSYNHMMKISYVN YVLSEKSSSTFLMKAAAKVVES KRTRTITSQDKPSGNDVEMETE ANLDTKRSHKNLFLSKLQHG TQQDLNKKERRVGTQSTKK KKESRRATESRIPVSKSQPVTP KHKRARKRQAWLWEEDKNLRS GVRKYGEGNWSKILLHYKFNN RTSVMLKARWRTMKKLKLLIS SDSEDWIVFVKL
4127	34495	A	4168	3	378	LTSGSRADQGEQEEGAEGGR ASSSSSSSPRGPHHPLHGD AEHRPGHPLCSPDLTVA YQ/M PEVPAEDM/SDPSFCSARQGGQ RGLDSGPGAPWSSSHSPHSRQ EASHGACAGWRWCRQEEL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4128	34496	A	4169	1	1044	SGQEVNKEDGQADVQQDHHA DEDGVGDLARQPHLFHLHLRL CRQCGLLPRLLLGPRLGQPSSLS LAGLGPGLGFGDDGLGLQLGG GLACRLGASERGGGLQGGGRG RGRGLGPG/GPRARAGPQRVGA RAAWCAQHSCGSPGKAPPPAP A/TGAGGACRASMAMRSVAGR AGLRRPAPSDGVTDRLPSPLS PFQAP/EAQQA/VLGHPPGPGPLG LRGRPGR*RGATLGPRGLT/PRA AAGSRGA/VGGPLRRRPGRGA PAGSPSSPGSPAAAGASDIPDLA GRSPEPAPWPKCEQCWTPGWQ PGRPVPLPQLWPWRGLSISGSM PLGEGLEDGSDPMTSPSCCLPGT
4129	34497	A	4170	1	732	SLTQAGTVSLGLDAEGQEVFVP FSAVLPMPVAPNDLVFDGWDISS LNLAEAMRRRAKVLWDWGLQEQ LWPHMEALRPRPSVYIPEFIAA NQSARADNLIPGSRAQQLEQIR RDIRDFRSSAGLDKVIVLWTAN TERFCEVIPGLNDTAENLLRTIE LGLEVSPSTLFAVASILGGLCLS FNGSPQNTLVPGALELAWQHR VFVGGDDFKSGQTKVKSVLVD FLIGFRLQRP/VSIVSYNHLGNN
4130	34498	A	4171	1	908	MEKAPPQTQHEGLKSKEHLPE QTDEGKTEYRRVPSLRAVVLF QRSCIENILRACVGLPPQNHML LEHKMERPGPSLKRVPVAAT YPMLNKKGPLVWEVSPATLFA VASILEGCAFLNGSPQNTLVPG ALELAWQHRVFVGGDDFKSGQ TKVKSVLVDFLIGSGLKTMSIV SYNHLG\NNDGENLSAPLQFRS KEV\SRSNVVDDMVA\SNPML YTPGEEPDHCRMGRNLPE*GSS
4131	34499	A	4172	85	529	ECGARPGSSTRPPARLSPRLFCS AIRAALKTRPAPALACTWRTG* RASLPTTRCAGSGLGTCTAEGS EGCSHPGPLTGTG/RQEACPGT APAGSPSCLHPRGRPRPCPPGTL APRMSCPWPRSPPLTRYLPSE NLQSKLESNTSEKF
4132	34500	C	4173	215	324	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4133	34501	A	4174	2	505	YKCEVCDKVFNQ*FLVCHNR CHTGKKPYSCYECGKTSQTSS FTCYRRLHTGGKPYKCSEHNK TFG*NSALVIHKAIHTGENPCKC NECGKVFNQKAHLARHRLHT REKPYKCEECEKVFSRKSHLER/ HKLKRGGVALV/C*ECPTVYQN TSCLRSLSCSYPMNLNG
4134	34502	A	4175	1	6192	
4135	34503	A	4176	2	3389	
4136	34504	A	4177	3	875	GEEAALSLCMHSTDDATRLGA RDTEPLWHVPAQ/ARLSAIGS SGNKHPSR/QDAAGKDSPNRHS K\GSKPSAGSLRLSSREGEDRTA WTGPRGAVEQEVTGPDLC*GR GQQGLLVGW**EQKRGQGKP QYSSHSSNTLSSN/ASSHSDD RWFDPLDPL/EPEQDPLS/KGCM SLAK/APRPAKPHKPPGSMGLC/ GGGREAAGRSHHADR/REVSP APAVAGQSKGYR/PKLYSSGSS TPTGLAGG/SRDPPRQPSTLWH RTWYL/YHTASAAVHRGLCRE LEQADQIPPSWYGRPRMGNS
4137	34505	B	4178	108	318	
4138	34506	A	4179	103	540	RRGCESHKTLRRGTSWGLDAR GGGPGPGQVSAGRDGAEVWLS TCDRGHALSGSVEELLFLQN/G ARTER*EGPGEWPRPPPPGLASP ALWRFWAEQVGGSFQELSPS CRTARGSSRTWGSILQNSSWLF QDLGLHLAEGCFLETP
4139	34507	A	4180	33	896	KITRHCTAPGKIRIVPKESQEST PQQDGAPGPGRATSCSARWSPR SWKSHELFCKMEPVLEEPR VLQDGAPGPGRATSCSARKGR GPEKPVQGLPN/GSVRAHSGGR AAPQSPRGHGPGRG*TAAPLP HLCPLTPVLLQG*GPD*WPLGW ATMRPLPLRAQPAPPPHWM LTPSAPPGTGKPGGGRGQTSG SCVPATDPHCRLSAPSPGKLGP CDFLEPP*QRTTNWGSSEAGSP KSRCPRGHVPSGGSKGGIFLSL HFPGAPQSLEFPQSHPGLIGAS
4140	34508	B	4181	1	625	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4141	34509	A	4182	160	1149	FASERMKVEPWRA GPGRRAWS EGAGQAPQKRARAGAEPQLPA TPALPGGKMVARRTKLA\RGTR RT\YPEPTV\YAAIPIKFSEKQQA SHYLYVRAHGVRQGTKSTWPQ KRTLFLVLPVPPYCTEESLSRLLS TCGLVQSVELQEKPDLAESPKE SRSKFFHPKVPVGFQVAYVVFQ KPSGVSAALALKGPLLVSTESH PVKSGIHKWISDYADSVDPPEA LRVEVDTFMEAYDQKJAEAEA KAKEEEGVPEEGWVKVTRRG RR\LCSPGLRQPACGCWRGRDG SAA\KRAAQLRLAASREQDGA SSAA\RKKFEEKQRIELLRAQR KFRPY
4142	34510	A	4183	2	361	GTMVARRTKLA\RGTRRTGIPS PPC*AAIPIMCSEKQQASHYLY GRAHGIQQGTKSTWPHKRTIFA FNGPPYCSEQESLSCLQSTCGL VQSVKLKEKLELGWESRSKFFH PKPVPVTEEQ
4143	34511	A	4184	917	1128	
4144	34512	A	4185	1	660	MAWQMMQLLLLALVTAAGSA QPR SARARTDLLNVCMNAKYH KTQSPPEDELYGQ/C/SWRKNA/ CSFTSTTQEAHKN/TSHLYGFN WNHCGEMVPACKRHFIQDTCL YE*PPNLGPWIRRYAWLPGIQE LAEELNFPVGSAGSNPSSSIQG WVPGILEPEPFSTKISQVDQSW RKEWVLNVPLCKEDCEQWWE DCRTSYTCKSNHGKGNWWTSG SNKCQVAAA
4145	34513	A	4186	216	781	MDMAWQMMQLLLLALVTAA GSAQPR\SARA\RTDLLNVCMN AKHHKTQSPPEDEAVWPDP/W MCKGSCRKTKSWNI/HRKSKCE VGLA/WEACSVSAGTGRGPC GRWVGAPQGP/CPRKCSSG*PT W/VQRSQNMEEMAVVNQSWR KERILNVPLCKEDCERWWEDC RTSYTCKSNWHKGNWWTAPS AVCDPLL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN (09/540,217)	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4146	34514	A	4187	3	625	QCRPWWRKNACCSTNTSQAHK DVSYLRFNWNHCG\KMAPDC KRHFHPGTPALYE/CAPHNLGA WDPAGWIQSWRKERVNLNPLC KEDCEQWWEDCRTSYTCKSN WHKGWNWTSGFNK\CAVGAA CPTFHFYFPTPTVLCNEIWTSH YKVSNSYRSGSGRCIQMWFDAS PGATPIEEV\ARFYVAAMSGAG PWAAWPFLLSLALMLLWLLS
4147	34515	A	4188	1	268	EQGRH/GSSTPVGPRGGPRIGAE HAPKHQCGCDRAGPQ\VGMDQ RRRDPPRAPAAPRPWCGQRAA LSSLGGSHLCDDA*VQPSAGLG KVLKF
4148	34516	A	4189	2	1632	WKRCPGLPRAAATFPSGSGAG GARREAGGRAPTPGPASPRTAR GHARNSPAPARTAGRTGSAGA WQTPCPAPLFPMASAGLPAACH WNPV*LRALKTG/LEGVLGSA DTQHNRTDGLAPNAACVYT PKINGNRHPNTCTKMFIVSLDA KGKKWKQPTVHQQRKRETCG LHPRKCLQYTPS*WSTTTGILPS RTPRISCVQFVKKKLQAGLLG HPGACLLCTLP*\PAGVGTFLLP RGC*GVVH*LEHTTCG
4149	34517	A	4190	2	87	
4150	34518	A	4191	3	291	
4151	34519	A	4192	112	286	AWLLWLTSPLWGSLYALALLA NKPAL*SLLLRYTLPPHHQC EKVPRWNEPQPTLFP
4152	34520	A	4193	1	933	
4153	34521	B	4194	1	999	
4154	34522	A	4195	135	1160	VWALVRSTLELFHTDDEEEGE YDEVTEEVTEQVYLPAKAKVA QEEVHPYPSAPPHYFEEKEW PDPPDLSFLEDTGRKVVPVTE QHLELLSVLFRQEFSLDERD DAVEQLRGVCIRAWKITSGGE QYPSFSAVKQGPKELYADFIW NLLRQESLKKVISDSAAQDIVL QLLAFGNVNLDCQAALRPIRGK AHLVDYIKACDGIGAKQDSERF AFTIPVVNNLQPAKHFYFTDG SSNGKASYSGSKGQNQQPIWIL SRHLKPYHEPDAKEEIPGG/CPR TPWLQPCRD*C*GGP*/PVTSNT R*TQPPTWGQIKLSQMVEENL RKAGQLVTMTVYWN

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4155	34523	A	4196	502	578	LV*EDCIAERAELRLNESYGIID WSP*GMFSLNCTSQSACHGHT MFSW
4156	34524	A	4197	2	408	
4157	34525	A	4198	3	853	LLKVIMSAKIFTKKENSTERL CGDGEKRGPDFRTERSVWLLR LEEAVAMVQGRSRAPESRVVA QVLTLLDGASGDREVVVVGAT NRPDALDPALRRPGRFDREVVI GTPTLKQRKEILQVITSKMPISS HVDLGLLAEMTVGYVGADLTA LCREAAAMHALLHSEKNQDNPV IDEIDFLEAFKNIQPS/LVFEASL GLMGIKPVDWEEIGGLEDVKPE VKTAH/WSLRQKSGHC/RSCAR LPTGLLATLGSGSGSGRATEAV SGPAG*KRASIGSSQRPFRFPT
4158	34526	A	4199	266	370	AERINSITVFSETLKRFLQASGK *FHRDIHNSRN
4159	34527	A	4200	1	1780	MGDVNQSVASDFILVGLFSHSG SRQLLFSLVAVMFVIGLLGNTV LLFLIRVDSRLHTPMYFLLSQLS LFDIGCPMVTIPKMASDFLRGE GATSYGGGAAQIFFLTLMGVA EGVLLVLMSYDRYVAVCQPLQ YPVLMRRQVCLMMGSSWV GVLNASIQTSITLHFPYCASRV DHFFCEVPALLKLSCADTCAYE MALSTSGVLILMLPLSLIATSYG HVLQAVLSMRSEEARHKAVTT CSSHITVVGLFYGAAVFMYMV PCAYHSPQQDNVVSFLFYSLVTP TLNPLIYSLRNPEERSHRGVKL NECNQCFKVFSTKSNLTQHKRI HTGEKPYDCSQCGKSFSRSYL TIHKRIHNGEKPYECNHCGKAF SDPSSLRLHLRIHTGEKPYECNQ CFHVFRITSCNLKSHKRIHTGEN HHECNQCGKAFSTRSSLTGHNS IHTGEKPYECHDCGKTFRKSSY LTQHVRTHTEKPYECNECGK SFSSSFSLTVHKRIHTGEKPYEC SDCGKAFNNLSAVKKHLRTHT GEKPYECNHCGKSFTSNSYLSV HKRIHNRWI*/YYCRNFWRKAL IDLSSLR*FERAHTGYISYLLQH
4160	34528	C	4201	18	182	
4161	34529	A	4202	1	389	
4162	34530	C	4203	114	548	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4163	34531	A	4204	122	735	LRAQQQHN*VLT LHKPACTLST TS*K*LHKIRK*LWHLRDRAPFI FTSEMEYFITEGGK/NPQHFDQF VELCCRAYNIIRKHSQLLLNLE MNSYNGYVGLLHNILQLEREC LATKEELQQNFPLSVSLPFDQS INQISEHRS LIFNGQYPYGSCWF RQAVCKLIQKYAGEWGW IATA ELRAEIDLNVLKFTIQVLSWKV QASLQ
4164	34532	A	4205	139	4496	KMAYSWQTDPNPNESHEKQYE HQEFLFVNQPHSSSQVSLGFDQI VDEISGKIPHYESEIDENTFFVPT APKWDSTGHSLNEAHQISLNEF TSKSRELSWHQVSKAPAIGFSPS VLPKPQNTNKECSWGSPIGKHH GADDSRFSILAPSFTSLDKINLE KELENENHNYHIGFESSIPTNS SFSSDFMPKEENKRS GHVNIVE PSLMLLK GSLQPGMWESTWQK NIESIGCSIQLVEVPQSSNTSLAS FCNKVKK
4165	34533	A	4206	1	3150	MEKPRPLEAPSAWPQDDVQCG VTVGMDGAAVRANRTPWPQD LEQTKWIEIKKSAFTWSSQLSL NRGFLTCKDENNNAGLLRVSS YSSREDQLKNIASDSL FMLPGG LCQSPTGTSHCSNQMETQGQGS PGGAVRGDKALGPEKARQCGG MNGSGKYCKFRVLAIQ GKPEC LATLMQPD LGDSPGLRE MNVV EHLRASFPVEQWYWRGGQRGE AEGARSSKAENNTSLICNFR LD YAPIEKQWDLHFADYFAEDLK
4166	34534	A	4207	1	1203	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4167	34535	A	4208	1	1470	MLHSRGFLAEVFGILARHNISV DLITTSEVSVALTLDTTGSTSTG DTLLTQSLLMELSALCRVEVEE GLALVALIGNDLKACGVGKE VFGVLEPFNIRMICYGASSHNL CFLVPGEDAEQDGTGTSGIGAQ KKKMYANNGAIDRKLLFEATF VTIEKCCDTNQKGGDDTHALGQ PIRGHDKSLAGSFCYACRSEEG LSQYRAYDSRGLIAVKDTQG HETRYEYNIAGDLTAVIAPDGS RNGTQYDAWGKAVRTTQGG/L TRSV\EYD\AAGRVIRLTSENGS HTTFRYDVLDRLIQETGFDGRT QRYHHDLTGKLIRSEDEGLVTH WHYDEADRLTHRTVKGETAER WQYDERGWLTDISHISEGHRV AVHYRYDEKGRLTGERQTVHH PQTEALLWQHETRHA YNAQGL ANRCIPDSLPAVEWLTYGSGYL AGMKLGDTPLVEYTRDRLHRE TLRSFGRYELTTAYTPAGQLQS QHLNSLLTYRHANFAL
4168	34536	A	4209	757	907	RRYCRITVRWQSM/WADNRIA VDAHYPYR*CRS\GRVTEKND\ LIPKG\VRTDDERTHRYHYDSQ HRLVHYTRTQYAEPLVESRYL YDPLGRRVAKRVWRRERDLTG WMSLSRKPVQVTWYGWDGDRL TTIQNDRTRIQTIIYQPGSFTPLIR VETATAVMDRILKDHQIVVDIP HGEAWLRDDEERPMILIAGGTG FSYARSILLTALARNPNRDITIY WGGREEQHLYDLCELEALSLK HPGLQVVPVVEQPEAGWRGRT GTVLTAVLQDHGTLAEHDIYIA GRFEMAKIARDLFCSEARNARE RLFGDAFAFI
4169	34537	B	4210	1	3258	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4170	34538	A	4211	281	1571	CQCPGAACPTTSCRVIPHWA\Y DEADRLT/HRTVN\GETAERWQ YDER/GWLTDISHISEGHRVA/V HYRYDEKGRLTGERQT/VHHPQ TEALLWQHETRHA/YNAQGLA NRCIPDSL/PAVEWLTYGSGYL AGMK/LGDT/PAANLDIRIPYAT DPA/GNRLPDPELHPDSTLSM/W ADNRIARDAHYLYRY/DRHGRL TEKTDLIPEGV/IRTDDETHRY HYDSQ/HRLVHYTRTQYAEPLV E/SRYLYDPLGRRVAKRK/DRTR IQTMYQPGSFTPL/IRVETATGE QAKTQR/RQLADTLQQSDGED GGV\VVFPVPV\VQML\DR\LESE SSADRVRSFISLANQSKCVEHA Y*RWQCHLGVCWWSSHQIPAV PLTGSVTRWHCHLASSSEAGSV AWLPHLSEGHSNRTSSPELLRS RMCAWHTLSAQSVHLVSLYL EILALMNSINSL
4171	34539	A	4212	311	788	
4172	34540	A	4213	29	395	RIFHSVINGVAAHKGGVYKTSVS VHL\AQDVAEIT/LLEGNDPQGT VS*YQGPGRTLIPLEAALRNIAH SLSIPPPKIFAAPTLRHYFALFFC GHSLFAPHIELLEAGTVLQLPQ GPWSSPTSF
4173	34541	A	4214	1	1033	MKMPEAIATKEIKDKWDLIKIK SFFSTPKETINRVNRHHTEWEDI SAIHLSDKGPISYIYKNLTRFTR KKQPHYKVGKGNEQTRILESH HLLKGLASTPFDSEGVRTERRD IHKDGILTQWLLTSYSARKLGLK STGHAGGIHNWRIAGQGLSFEQ MLKEMGTGLVVPGTAEARSC IRAYFYDIHETLCRQEEMALSV VDDHVREKLIWLRQHQMEDI LLSEVSAACLHCEKTLQQDDCR VVLAKQEITRLLTLQKQQQF TEVADHIQLDASIPVTFTKDNR VHIG\PKM\EIRVVTLGIGMGAG KNLLSLF*V*NRVEFHGSPFPTI WFLTWETVGFLK
4174	34542	B	4215	414	1022	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4175	34543	A	4216	896	1626	NATTIRYEHQVRVLKAAQYLHQ QGITRCNSSSTLTSAAPGRVDSP PTSMIVAPALIIRFACFTASISEL CVPPSEKESGVTLRIPIHLMRE LTCRLIRDKSATVTGSHTLVVA RHCCYAAPGGCCLLANWLKPG LFGPIGVLSRRGTSVILPIGGFY QWNPMICPNGVVPMQHG*RRG LAQERPLEEWLPVCRDMLNAF FLPDAETEAMTLIEQQWQAI AEGLGAYGDAVPLSLLRDEL AQRDLQERISQRFAGPVNICTL MPMRSIPFKVVCLLGMNDGVY PRQLAPLGFDLMSQKPKRGDRS RRDDRYLFLEALISAQQKLYI SYIGRSIQDNSERFPSVLVQELI DYIGQSHYLPGDEALNCDESEA RVKAHLTCLHTRMPFDPQNYQ PGERQSYAREWLPAASQAGKA HSEFVQPLPFTLPETVPLKRYN DSVRAPTCAESRAIFTSTRNNTL QLFFNANFRPWARGLATNVN DRRASVDHQIRMFHRIYQVRM RATIRKGIRRDVEDPHYSSDAG TYLSPNSRQISNGNWQSHIGRSP SLLLCRTWGLLFTGKLVETRFI WPNRGVIPTGNERYIAHRRFLP MEPDDMPQWRCPHATWLAEA KMFDLAKAGKYLGAACKLMI GMPDYDNYVEHMRVNHDPQT PMTYEEFFRERQDARYGCKGG
4176	34544	A	4217	838	1575	CFFLSPSPSPSPSPNRSQTTEEE TKRQE/ERERKREEEEEKGR KETKKRRNRQEGKQHRKEEKE GEKQTKQRTETERETKRRRENE QAKAHKGTRKRKEEQKKAKA ARRRTHKRQNPSRGREGTHPK QRQGKEE/VNRQNKEEAKQKR EEAGRTRR/EDRGRKDDKKERR QQQTEKKAKPKAEHQERTDT TTKKARQREGPSERRRRREE/ MSKHDPQNRAEKTNEEKEEGR QHER*TKQSSTGI



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4177	34545	A	4218	1	692	MNALHAEALEMTSQFDQELAA KFEADHEMALLMNKDFDRDRE EQRRLAEQARREHEERIKREAA EQARRDAEAKHKAIEAAARR EAEKARAELAERQRIEAEQRA EREKKETEERARREKEEAVAAE RRRQEEAEAARLVEEQRKAAE EARRAADKEHRRVTNRR/GLRR SDCSGHPRRIRTESSAGDRWRQ SAGRAHQILRQT*THTSLTTAS KNGAGLSSNSPTRKRS
4178	34546	A	4219	3	1120	
4179	34547	A	4220	1	831	MVKARKIMETPQPAWEMRVRI CTVDWSKLNPIPDFFSLIKSEK KYDHPPELIVDESNLRVVYAPSR YFASEPKADVSLILRNPKAMDS ARNQALLEGYFSFTATEDQLEQ AKSWYNQMMD/SPEKGKAFEH GNMPA/QMLLQVPYFLREVERE H*IIITPILHMRKQEQSG*/RNLP KAAQLSMMQDLQTLMAASY CSELGHVATQFQGM LACTRNP NSWDRNSETSGKAEGFIPMLG DVADPSVRCSSVSSLWGHSSPK LLRSVCMANRICVKLQRWT
4180	34548	A	4221	1	1503	
4181	34549	A	4222	1	1113	
4182	34550	B	4223	1	760	
4183	34551	B	4224	1	1755	
4184	34552	C	4225	1	4215	
4185	34553	A	4226	1	3240	
4186	34554	A	4227	1989	2144	
4187	34555	A	4228	1	1203	
4188	34556	A	4229	1	4767	
4189	34557	A	4230	31	512	EYRKSPDIRPIVIQHGEAEITH HFR*QELADKTLIFEITHREMQR FQPVGTGDIREPVFVFFRWRLT NPFNILEHGEPEGIRVDAAVPR AVIGGLEDHIGVAVQKLQHKTF RYFPFIQMVKDGVVPEGRPAF VHLSLFLRIKILAHLTHTNTQDF
4190	34558	A	4231	369	918	RPGMSNPWRDLFRTGVDPTND RLSALVEI/YRMMRPGEPTREA AE/SLFENLFFSEDRYDLSA/VG RMKFNRSLREEIE/GSGILSKD DIIDVMKKL/IDIRNG/KGEVDDI DHLG/NRRIRSVGEMAENQFRV /GLVRCTGTVPFLHQKCEYH L/PQRPVASTLSRYF*HFRLRN SMPRANEIKKGMV

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4191	34559	A	4232	3	1012	SVVLKIVERVDGYFSPPLFLGA AFGSHVRSRALPDPCVLFRTI YLCVLASVARTFSPLLPVSRKK HITPLGGFQLHETHLCLQDCRTI ILRPLGFEFGNKFSQLVDITDLH WQHGLAHL*KESARGQYSLLL LGMVSLCALILILWRVVYRSVT CPLADQTQALHRLLDGDIVSPF PETAGVRELDITIGRLMDAFRSN VHALNRHREQLAAQVKARTAE LQELVIEHRQARAEAEKASQAK SAFLAAMSHEIRTPLYGILGTA QLLADNPALNAQRDDLRAITDS GESLLTILNDILDYSAIEAGGK NVSQSYVARLEPVAASGWHK YPWLN
4192	34560	A	4233	1	502	
4193	34561	A	4234	1	653	
4194	34562	A	4235	2	300	YALATPPLSV/INQWQLALDKG QLPTF/VAGLAPQHPQYAAMHE SYWPYSALR/EILQRTGMLDGG PKITL/PGDDTPTDAVVSASVT NSHGR*VPTLGGVWGL
4195	34563	C	4236	40	105	
4196	34564	A	4237	355	526	
4197	34565	A	4238	116	949	RPGTGRC SAVQLPVLLLRGPHS SHTVGTHMVDLDSGQLCVYP GNSDEMPAATQARERLLADT AKKKAQIAELQSFVSRFSANA* KSRQATSRARQIDKIKLEEVKA SSRQNPFIREFQDKKLFRLALE VEGLTKGFDNGPLFKTLNLVLA EVGENLPVLGTNGVGKSTLALK TLVGDLHPDSGTVKWSENARI GYAQQDHEYEFENDLPVFEWM SQWKQEGDDEQAVRSILGRLLF SQGDIKKPAKVLSGGEKGRML FGKLMMQKPNILIMDEPPTHP
4198	34566	A	4239	1	319	MVKKMARAPMILALANPEPEI LACRHGRKEVRPDALICTPGRS DYPNQSETNVLICFPANVHRIPQ AASHLRAHQSRIPISLMSISAKIL TYLLANQIQFLVKQH
4199	34567	B	4240	263	1390	
4200	34568	A	4241	1	323	
4201	34569	A	4242	3	1855	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4202	34570	A	4243	2	964	LLKHGVSLEYIQDKEGLSALDLV MKDRPTHVVFKNTPDPTDVYTW GDNTNFTLGHGSQNSKHHP VDLFSRSGIYIKQVVLCKFHSVF LSQKGQVYTWGHGPG\GRLGT WEMNRHAWVPRLVGRD*MVII VSPSWPAAKDHTVVLTEDGCV YTFGLNIFHQLGIHPPSSCNVPR QGLHNRQNRYPVPVGSAGPTS MEPSKIRPTGLKFSLTQQQSEI DLGCSSLCWDYRREPLRLAYW FIKKDIAKDTDEETRRHGVSLEYI QDKEGLSALDLV MKDRPTHV FKNTGSLQFQSIPSCRESQILSEK QGDLFREEPMFGS
4203	34571	A	4244	1	725	FRVDPVRKHFGLFYAMGIVL MMEGVLSAC*HVCNYSNFQF DTSFMYMIAGLCMLKLYQTRH PDINASAYSAYASFAVVMVTV LGVVFGKNDVWFVWIFSAIHV LASLALSTQIYYMGRFKIDL GIFRRAAMVFYTDICIQC SRPLYMDRMVLLVVG NLVNWSFALFGLIYRPR DFASYMLGIFICNLLLYL AFYIIMKLRSS*KVLPVPL FCIVATAGMWACALYFF FQNLSSW
4204	34572	A	4245	1	833	MKPVWVATLLWMLLLVPR LG AARKGSPEEASFY YGTFLGFSWGVGSSAYQ TEGAWDQDGKGPSIWDV FTHSGKGKVLGNETA DVACDGYKQVEDIILLR ELHVNHYRFSLSWPRLL PTGIRAEQVNKKGIEFY SDLIDALLSSNITPIV TLHHWDLPQLLQVKYGG WQNVSMANYFRDYANLC FEAFGDRVKHWITFSDP RAMAEGYETGHHAPGL KLRGTGLYKAAHHII/ KAHTL*VCFHAADKGIP ETEKRRRLNWTYSSTW LGRFHNHGRG
4205	34573	A	4246	1	672	GTQNAVNG/VIIFLSWGDA VKSFWIYRGGRKREGPLF HA*QFLIYTHIRAVGSI NVIANYKLKFI TPGVI DICTSLIAGILTIKLLFI NQFEKQQIKKGRDITSAR IMSRIKITIIVGLVLLY GEHFGMSLSGLLTFGG IGGLAVGMAGKDILSN FFSGIMLYFDRPFSIGD WIRSPDRNIEGTVAEIG WRITKITTFDNRPLYVP NSLFSSISVENPG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4206	34574	A	4247	1	347	PLRPGQPGPGGAGT/RALRAPP LPSSSELCYGPQPGRWPRCPQ FPSLPPHSS*LLHTGHWPCITLGY CFIPILRAAPPLPCKCASPVLISC TYPLPAAPSLPVLVHTSIKCF HLQ
4207	34575	A	4248	43	446	VLPAVPRPGQ/PPCVPAVQAP PPRSPGWSQATGSPGPAGAAP SWR\GLPAVPGHTAGVLGP GQRQPGPGGAGTQLCGPHLFL RLLNVAYGPGQPAL/RNVPLQT APALTPSPQHLLCPFLSTHLLNA SVFIC
4208	34576	A	4249	1	1521	RIPESRLPTTAFVQAPWARSGSS GLRRWEKHAGQQVGVWWARGP GVRGRQAAGGGAAALTCRGG AGSAVRSCAGLPSLASGSAGCR LHPSYSFGFKVGS/PTVPAALSS *STS/RGREHGGVTVPVMTQN PRS\PDGPARVEDCEAIA*GTG WL\QQGIGTRPPGTGLGRAR\G APAVPQWNPV\KSCQGGPHPNR LPSHGPSSGEAGRGW/RGLQITP QL/PEVTHRRVLPGDHPATEA\G GFGTG*PGLPGRVPGPGVGGTY QAKALTPLGPVGLLAPASCAQC LQQSADGPGATGHL*ELAESQC RRQPTG\PPGQLAVSGWATVPG VPAAPRPFPAQQA/SVPTPSY WA/GSPGAAAWPESHRR*ACD WAW**VLPAVPRPGQ/PPCVPA PVQ\PQSHRGPAHDGARLY*GL PQAEQLHPGGGLPAVPGHTAG VLGP GPPGQRQPGPGGAGTQL CGPHLFLCFLNVAYGPGQPGR WPRCPQFPFLPPILSWNIFGVGT QKKKKKNQSFLLKKKKKK
4209	34577	A	4250	167	582	RSLGLAVTEMVPWVRTMGQK LKQRLRLDVGREICRQYPLFCF LLLCLSAASLLLNR*RRSAEPGR RL/SL/LKVQTPGPCCLTVRRPRS CGTGDQWGERAPQRSGLGEHG GASRPEAQAGGVGLIASFPEAS SPELPFSHP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4210	34578	A	4251	402	1465	DLILSHPTAWFTIKYKPKQLGL QELFPQGHSCAVCGKVKCKRH RPSLLLENYQPWLDLKISSKVE ESLSKDLELVLENFVYPWYRD VTDDSFVDELRLTRFFASVLI RRIHKVDIPSIYNQETIKSSNESI *KWIVKARQKVKNTEFLQAA LEEYGPPELHVALRSRRDELHYL RKLTELLFPYILPPKATDCRSLT LLIREILSGSVFLPSLDFLADPDT VNHLIIIFIDDSPAEKATEPASTL VPFLQKFAEPRNKKPSVLKLEL KQIREQQDLLFRFMNFKQEGA VHVLQFCLTVEEFNDRILRPEL SNG*NAVSS/WKNCRRFIKHTV WMKVLTKLDLIPSLVEEIPR
4211	34579	A	4252	1	1232	FPGRFRFLVVR LGAEAA SERQ VYSVTMKLLLLHPAFQSCLLLT LLGLWRTTPEAHASSPGAP AIS AASFL*DLIHR YGEGDSLTLQQ LKALLNHL DVG VGRGNVSQHV QGHRNPTTCFSSGDLFTA HNF S EQLRIGSSELHEFCPTILQQ LDS RACTSENQENEENEQTEGRPS AVEVWGFGLSVSLINLASLLG VLVLPCTEKAFFSRVLTYFIALS IGTLLSNALFQLIPERSYKNKAQ VDSLPTFLAQAGMLLWRVRIR RRVVDPIRESWMLPFTKIPLWG YGLLCVTVISLCSLLGASVVPF MKKTFYKRLLLYFIALAIGTLY SNALFQLIPENRRKWWQPVHN TFGGSTAWHTDKSIEQSIDTLFD EVKKESEKETPSLQIGDLGPQES LKTFNNTNSPHH
4212	34580	A	4253	3	924	VGACTAAARPLPIQLQPILHHR GEKSQLWAHSGSSWGFLAVAA VPPSHLCPPQLQSRGWKRPP/PLA SAGVLPGCCCACLVSPSLAQ P AG\LGPKPAAPLGPWPVSVAP CSRPGPCPGTRSPA/P*GHPAMG R\GVHEPRVGPAPPEKAIITETG AGLAERRGQGLGGGSSFRSAEP QGCRLGPGSPGGDPAHTILRPP SQNGDCAEMHACRLHPAILGT HGTGGLAAQSHAPRALLPSCPS SQQPADGWCSLHLCPLGLLAP RIHGPSTREGGPGHGTGPPTNP ASSGATRGTRRVRSVPRSP TL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4213	34581	A	4254	1	318	VADPVGAARAGGQPLAGRVW PRAGGGHSPRVLGAAGPGPHV CTLRPLGTAIRTEPGAPLACAR AWPGSSPAG/PECLPTSC*P*EG QEPSSHVASLPWGPVGGETQ
4214	34582	A	4255	1	718	FFFFFFFSLCHLYWVSPTPGPHG KLANMANWAPWPS*GLSKLVG KHSCPAG*LPGHARAQASGAP G/ISPDSSAREA*ECT/PCGPGPA APSTRGECPPSSSRPHS/SQQDP GRCSFAPAVPQDAGGQGHWCC APATGHSAPRGCPPARAAPTGS ATPAPPPAACAASSLSMVSAPS R*TTGIASSGTSIPETKHQGT PGTAPAGT/GPGGSTGPKA/PGPAP AHPTRLAGTSGHTAPPTCPPAV
4215	34583	A	4256	702	1026	RSGRTQRAAGVSGSALHQVQS WPHLKISADQRAGLLF*EHPFP PSASSGCLDVSISSYPVGSDFIN GMARANGRWKFTGLHSGKPL GFSDAFCQHNLILCWKTW
4216	34584	A	4257	170	1049	RGSGCSAELVPSSRWRPGSRAG AAAGTETPG*PRVYVPAGNGE AGGPGAAWARRAAALPGTAA GPPRPAARPGAAPARGGPAPGA PAQALPR/TPTWPAAR*AQRAP SPPSWGSIAQPGHPGDLAAGVG RGAGGGHSRRGRHHHVRS LADLLQLPGAEGAGDRGHLPGPD/ GERS*AASSFSAAGRAAGTASC CSAGGTPPSPCTILSTSSSLAH VASSS/RRRAEGDTKVS/RGRAE GQDSETGREPGVLHRGSGRTQ RAAGVSGS/RSAPSPVVATT SRSLLTSVQGCFSENILSP
4217	34585	A	4258	178	556	QSPQEHFHPECGRRDILCQVRQ EIRWPNPGEVHHLGLEICPVWI LQLHLALRTRAPEHPLQVHRPG GGAV*RGVPPPLRLQLACDGP EVPAAGRPRPARSSPGQWPP*/PA AVAPPVTERPPTPSAA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4218	34586	A	4259	5	1044	TGRILDGWHWAKELRLDCPLG DSRRPPFSRVSTEGSPAFLALRL PNVTAGS*EVSMLASTETPLVIT RPSPGIGHDPGPAPRGAAASPA GSPAP*QKSPRPLSAAAPLLAS DPAPPRAAAPPADTESSVQPPA APHAGPWTGPSAPGLDVHSPPP \PSRGPVQSSAEPHNRPSPGAT RPRP\PPRGAAASPAGSPAP*QK SPRPLSAAAPLLASDPAPPRAA APPADTESSVQPPAAPHAGPWT LERSWAP*RSLPTPIPVADPLCR APLSHRYP*GDCQRSGLCHTSP GRASHLPGPGAHKRTPHACWL PLECHRRSPHP*THPSG*PGPSP QSFFPEFLGSGP
4219	34587	A	4260	2	576	CLVNSTTRRSFQLRLVPVPKFQ PPHMTVR*LFNFGRLTATTFs/ LRKSYAVREAYELQNCPPPPF QNGYMINSDYSVGQSVSFECYP GYILIGHPVLTCTQHGINRNWNY PFPRCDAPCGYNVTSQNGTIYS PGFPDEYPILKDCIWLITVPPGH GVYINFTLLHTEAVNDHIAVW YENLSSQNICDCDQQF
4220	34588	A	4261	1	837	MWAGNAWRAALSGVPCGRSA QSVLAQLRGILEGELEGIRGAG TWKSERVITSRQGPPIHVDGVS GGILNLTSVRFIRGTQSIHKNLE AKIARFHQREDAILYPSCCDAN AGLFEVLLRPEDAVLSDELNCA SIHGICLCKAHKYHYCHLDVA YLETKLQEAQKHRLFLVATDG AFSMDGDIVPLQKICRLASRYG ALVFVDECHATGFLGLTGQGT DELLGVMGQVTIINSTLGKALG GASGGYTTGPGPLVSL/RAQP YLFSNSLPPAVVGCTSKAL

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4221	34589	A	4262	1	2142	MIILIDAEKAFDKIQPFMLKTL NKLIGDGTLYLKITRAIYDKPTA NIILNGQKLEAFPLKTGTROGCP LSPLLFNIVLEVLAQAIRQEKEI KGIQLGKEEVKLSLFADDMILY LENPIVSAQKLLKLISNVSKVSG YKINVQKSQAFLYTNNRQTESQ IMSEFPFTIATKRIKYLGIQLTRD VKDLFKKYKPLLNIKEDTNK WKNIACSWIGRINIMKMAFPR WELNNENTWTQEGEHHTLGPV VGWGKRGGIALVDIPNVNDKL MVLEVLARAIRQKKEIKGIQLG KEEVKLSLFADDMIVYLENSIV SAQNLKLISNFSKVSQYKINVQ KSQAFLYTNNRQTESQIMSEFP FTIATKRIKYLGIQLTRDVKDLF KENYKPLLKEIREDTNKWKNIP CSRIGRINIMKMAILPKVIYRFN DPIKLPMTFFTELEKTTLKFIW NQKRACIAKTILSKKNIAGGITL PDFKLYYKATVTKTAWYWYQ NRDIDQWNRTEASEVTSHIYNH LIFYKPDKNKKWGNDSLFNKW CWENWLAICRKLKLDPFLTPYT KIHSRWIKDLNVRPKTIKTLEEN LGNTIQDIGMGKDFMTKTPKA MATKAKVDKWDVIKLSFCTA KETTIRVSRQPTWEKIFAIYPS DKGLISRIYKELKQIYRKK\TNN PIKKWAKNMNRHFSKEDIYAA NRQMKKCSSSLVIREMQIKTTM
4222	34590	A	4263	1	1989	
4223	34591	A	4264	1	1104	
4224	34592	A	4265	1	879	
4225	34593	A	4266	1	1659	
4226	34594	B	4267	1	1500	
4227	34595	B	4268	1	1962	
4228	34596	B	4269	1	1716	
4229	34597	A	4270	1	1152	
4230	34598	A	4271	1	4752	
4231	34599	A	4272	1	2790	
4232	34600	A	4273	1	3477	



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4233	34601	A	4274	1	1007	MLDASCHRTSDSKFFSFGVQTG FLTPELAHLVGPCDRDHNSPA REQNWTENEFDELTEVGFRKW VITNSSELKEHVLTQSKEAKNL EKRAIKQEKEIKGIQLGKEEVK LSLFADDMIVYLENPIVSAQNL LKLISKFSKVSQYKINVQKSQA LLYTNNRISQIMSELPFTIAMKR IKYLGQQLTRDVKDLFKDNYKP LLKEIREDTNKWKNIPCSWLGR INIMKMAILPKAIYRFNAIPIKLL *TFFTELEKTTLNFIWNQKRARI AKTILSKKNKAGGITLPDFKLY HKATVTKTAWYWYQNRIDQ WNRTEASEITPHIYNHLIFDKPE
4234	34602	A	4275	737	2460	RIKYLRIQLTRDVKDLFKENYK SLLNEIKEDTNKWKNI PCSWIG RMNIHKMAI/LPKVIYRFNVIPIK LPM TFFSELEKSTLKFIWNQKR ARIAKTILSQKNKAGGIMLPDF KLYYKATVTKTAWYWYQNRD IDQWNRTEPSEMTPHIYNHLIFD KPDKNKQWGKDSLFNKWCWE NWLAIQRQLKLDPFLTPYTKIN SRWIKDLNVRPKTIKLEENLG NTIQDISMGKDFMSKTPKAMA TKAKMDKWDLIKLSFCTAKE TTIRVNRQPTWEKNFAIYSSD KGLISRIYKQLKQIYKKKTNNPI KKWAKDMNRHFSKEDVYAAN RHMKKCSSLAIREMQIKTIMIY HLTPVTMAIHKSGNNRCWRG CGEMGTLLYCWWCKLVQPL WKT LWQFLRDLELGIPFDPAP LLGIYPKDYKSCCYKDTCTPKL ARDDQIHILKQHRRKELETRQK QYRAWYEINPFHSVWPVTAGK SPRHQLPVVWHNPQTSPYLQL QTRDGEESNENNF GSTILASDFF AEIDKLSILQIHMEMEGTQNSQ NNLDKKKTKMEDLHFSISKLLH SYSIQDNVISA
4235	34603	A	4276	3	355	RQPVHLVHELPPQSWGICLNSS EQHGALQHSSLHL/RMCSEPWS SADPQ*R*TCRNL*LPVRGPPRR TDLFSVSSKSTLKEWPLLLMIL AELGSYLILSGRREESYFTSLVL ISIGDC
4236	34604	B	4277	78	791	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4237	34605	A	4278	1	3395	MIISIDTENAFEKIQPFMLKTL NKLIGIDGTYLKIIRAIYDKPTAN IILNGQKLEAFPLKTGTRQGCP SPLLFNIVLEV MARVIRQEKEIK GIQLGKEEVKLSLFVDDMIVYL ENPIVSAQNLLKLISNLSKVSGY KINVQKSQAFSYTNNRQTESQI MNGLPFTTASKRIKYLGIQLTR DVKELFKENYKPLLNEKKVDT NKWKNIPCSWIGRIMILKMAIL P/KELEKTTLKFIWNQKRACIAK SILSKKNKAGGITLPDFKLYYK ATVTKTAWYWYQNRDIDQWN RTEPSEIIPHIYNHLIFDKPDKN KKWGMGSLFNKWCWENWLAI CRKLKLDPFLTPYTKINSRWIK DLNVRPKTIKTLEENLGNTIQDI DMGKDFMSKTPKAMATKAKID KWDLTCLRSFCTAKETTIRVNR QPKWEKIFAIYSSDKGLISRIY KELKRIYK/KKNNPIKKWAKD MNRYF*KEDIYAANRHMKKCS SSLAIEMQIKTTMR/YHLTPVR MAIIKKSGNNRWEMNNENTWT QEGEHHTLG/HC/WWKARRSR CLTWMAAGKKRMRKTLQMT
4238	34606	B	4279	1	2011	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4239	34607	A	4280	1	2661	MTMNFVADSHTGRNPLASAAG AKTGLRPLPRPCGARVWNPPD AGGGGVGSLKTSTPLGPLSAAN SPVHQGSVPQTRARGGGTLFQE VVTSRTLAFRNSLSAFTEVTSG TVSGRKGGRSTHLAGRRVSGG EGSRKAAAAAALAAVAAAPGPV RRCSSQSCFSSSGSSHYSARTSP VRVRPRRSLSSRSAAGNRAEAT ESAMEKTLETVPLERKKREKEQ FRKLFIGGLSFETTEESLRNYE QWGKLTDCVVMRDPASKRSRG FGFVTFSSMAEVDAAAMAARPH SIDGRVVEPKRAVAREESGKPG AHVTVKKLFVGGIKEDTEEHL RDYFEEYGKIDTIEIITDRQSGK KRGFGFVTFDDHDPVDKIVLQK YHTINGHNAEVRKALSRQEMQ EVQSSRSRGRGDGYGSGRGFGD GYNGYGGGPGGGNFGGSPGYG GGRGGYGGGGPGYGNQGGGY GGGYDNYGGGNYGSGNYNDF GNYNQPSNYGPMKSGNFGGS RNMGGPYGGGIWKNTSITERK KSRKLDLIQSKKGSRTKEAPQP PVASLCMHLGHWSRLMVSPGA QLTGKNSHGLSVSSVRKSNVGP RRLCAAMKATGPDNAQSQVSP PGHAPSAEDPTGSRTVSSPCTD RPHPFLSRKPPTQISLVPLKT DGALERMPQQL/HIASS/GAKVP NPSTQTPPVLLAFFYPFNLP*N
4240	34608	A	4281	1	908	MRKVKGKNRQSFKCLPPPSGA LQAHGAAAPHGSLTLHLHLV PVSSAAMKATGPDNAQSQVSP PGHAPSAEDPTGSRTVSSPCED RPHPFLSWPTWISLALLKTDG ALERMPQQLPSLHPSQGTQSIH PDPSTSSFLFPQPPTLKRAAFP CPPSIVNPAVWDTSTPSVAEHH TPIRITLKEPTQFLSQKQYPIQA ALVGLQPIISHLLASHLLRPTDS PFNTPILPVKKPNGTYRLVQDL RLINQAVLPLVQE/DYSVLLYLP LNVTPGLPPATAFSYPPSPGPVA RARLASRLHSHAA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4241	34609	A	4282	1	915	MPNYVTFTDTKQLISDTPNNQV PMNRASMAFDKCLTGCRFDD AIVQFDMTYWPFTVVNDAGRP KVQVEYERDKKLLPIGGVFYGS DKDEGNCKSLPWEDCYQCET SQNVQDFLFLDVTPLSLDIKTA DGVMAVLIKCDATIPRQTQTF TTYSDKPSM/LIAKDKNLLRKFE LTGVPPAHHGAHQIEVTFDINA KGILNV\TLTDDKGHLSKEDIEP MVQETEKYKADEKQRDKVSS KNSLDPYVFNMKATAEDEKLQ VKINNEHKQKILSKCHEIINWL DKNQTAEEKEFEHAQQELEKSS
4242	34610	A	4283	1	994	MHQTCKGNQWHFGMKAHIGV DAKSLTHSLVTRPNEHDLNQ LGNLLHGEEQFVSADAGYQGA PQREELA EVDVDWLI AERPGK VRTLKQHPRKNTAINIEYMKA SIRARVEHPFRIKRQFGFVKAR YKGLLKNDNQLAMLFTLANLF RADQMIHCTRGEGLITTKIPKAP DNGSYCLPSKNDDSEEDPEMS PMVVTKMKEIAEAYLGKTVTN AVLTVPAYFNDSQRQAT/KKDA RTIAGLNGLRISNEPTAAAIAYG LNQKVGTERNVLIFDLGGSITPR IRTPETGSDDAIKSILEQAKKEIE SQKGGECDPCRQSLRPPGPAAN
4243	34611	A	4284	3	677	
4244	34612	A	4285	30	365	EEAETVLVGQLKQLSSCLAVH KYRPETKQEKQRL LARA EKK AAGKGDVPTKRPPVLRAGVNT VTTLVENKKAQLV\CRKMGVP YCIK GKARLGRLVHRKTCTTV AFTQVN
4245	34613	A	4286	3	432	NSRVDDFVAAQDAKGKKVAP APAVVKKQEAKKVVNPLFEKR PKNFGIGQ\QRL LARA EKKAAAG KGDVPTKRPPVLRAGVNTVTT LVENKKAQLVVIAHDVDPIELV VFLPALCRKMGVPYCIK GKAR LGRLVHRKTCTTV AFT
4246	34614	C	4287	62	217	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in U.S.S.N. 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4247	34615	A	4288	2	801	PKGKKAKGKKVAPAPAVVKK QEAKKVVNPLFEKRPKNFGIGQ DIQPKRDLTRFVKWPRYIRLQR QRAILYKRLKVPAINQFTQAL DRQTATQLLKLAKHYRPETKQ EKKQRLARAEEKKAAGKGDVP TKRPPVLRAGVNTVTTLVENK KAQLVVIAHDVDPIELVVFLPA L\CRKMGPVYCIK GKARLGRL VHRKTCTTVAFTQVNSDKG\ ALAKLVEAIRTNYNDRYDEIRR HWGGNDLRPK\SVARIAKLEKA KAKELATKLG
4248	34616	B	4289	1	273	
4249	34617	A	4290	1	441	
4250	34618	B	4291	47	482	
4251	34619	A	4292	1	762	
4252	34620	A	4293	1	890	MSKSESPKEPEQLRKLFIGGLSF ETTDLSLRSHFEQWGLTDCVV MRDPNTRSRGFGFVYATVE EVDAAMNARPHKVDGRVVEP KRAVSREDSQRPDYFEQYKGIE VIEIMTDRGSGKKRGFAVTFD DHDSVDKTVIQKYHTVNGHNC EVRKALSKQEMASASSSQRGRS GSGNFGGGRGGGFGGNDNFGR GGNFSGRGGFGGSHGGGGYGG SGDGYNGFGNDGSNFGGGGSY NDFGNYNQSSNFGPMKGGNF GGRSSGPYGGGGQYFAKPRNQ/ GGYGGSSSSSYGSGRRF
4253	34621	A	4294	1	1674	
4254	34622	A	4295	1	506	KYHTVNGHNCEVRKALSKQEI ASASCSQRGRSGSGNFGGDRG GGFGGNDNFGRGGNFSHGFGF GGSCCGGGYGGSGDGYNGFGN DASNFGGGGS/YNEFG/NYNNQ SSHFGPLS/GGNFGGRSS/SPLGG APASTYVKGPNSQRTQNEGWF EG*APWRGDDGGARGNKGGGA

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4255	34623	A	4296	1	1445	MKCLKFINHKEILEASERKQAE SLDFPFKKLRWHLCEGWIEER DESRKSETIFKDLFKVPVLKETI YYKFYGPVYQIETVYFMALSP PKSKQFDKTKQNNNNKKTHQF VIVFFKTDEHLSARGRRRSIVK VSLPAVIGLKSKFLKKPDQLR KLFINGGLSFETTDESLEEFPSR QWGKRYTDSVVMRDPNTKRSR G\FGFVTYATVEEVDAAMNA RPHKVEWKELLEPKRA\VSRED SQRPGCPH*LVKKIFVGGIKEDT \EEHHLRDYFEQYGKIEVIEIMT D\RGSGKKRGFA\VTFD\DHDS VDKIV\QKYHTVNG\HN\CEV* KSPVKS KMASASSKPKEGRSG FWETFGGGSWEVFGGN\DNF GRG\GNFSWSV\AFGGSRG\GG GYG\GSGDG\YNGFGNDG\SNF G\GGG\SYNDFG\YNNQ\SSNF GPMKGG\NFG\GRSSGPYG\GGG QYFAKPR\NQQGGYGGSSSS\SN
4256	34624	A	4297	1	920	DPGDTPTASAPNCRSGKGRSS SPEHIPPLEKLEDSMQTNPSTNP EPGR LAEWLDPEERQQSLQFGL QEATSIGKGGQYYIKGTPHGTK ESEQQPSALDLPSDRAYPNEKE PENQLWRLVIKLIKEAPEKGAY LNVIAVYDKPTNGEKLRAFPL RTGTKHRCPLSPLLFNILLEVLA RAIRQEKEIKSIQIGKEEVKLSLF ADDIIIYLESPKYSSRKLQELIKE FSKVSRYEINVHKSVALLYTNS NQAENQIKNSASFTIAAKNLIK YLG IYLT KDAK DGYKENYKTL MKEIIDDKNKQKYIP
4257	34625	A	4298	1	1194	
4258	34626	A	4299	3	1834	
4259	34627	A	4300	285	502	
4260	34628	B	4301	77	1306	
4261	34629	A	4302	1	354	
4262	34630	A	4303	1	1182	
4263	34631	B	4304	1	1995	
4264	34632	B	4305	1	1518	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4265	34633	A	4306	1	918	MCPVGPWTHPVVISPVSECIVGI DILGSWQNLHIGSLTDITMVHYI DDMMLIGSSEQEVANSLLDV RHLHARGCKINPTKIQGTSTSV KFLEFQWCGVCQDIPSKWVLE QKALQQVQAAVQAALPLEPYD PADPMVLEVSADGVAVWSL WQAPIARIHGSRNQGVVEVSP LTNIPSDPLAKFLFPAPSTLCSA GLELLVPEGGTLLPGNTTMIPL NWKLRVPGYFGLLLALSPQA KNGVTVLAVIDPDYQDEITLL FHNGGGEYARNTGDLRHL VLPSPMIKVNGKALQHPNPGRT
4266	34634	B	4307	1	1599	
4267	34635	B	4308	1	1569	
4268	34636	A	4309	3	422	
4269	34637	A	4310	1	1089	
4270	34638	A	4311	2	549	LKMTAMQRPMEKRMMNREIL KERLSLTGIDIKLKRSIMKVE SHRGEQISVSSLALQRIKYLGIQI TRDVKDLFKENYKPLLNLKE DTNKWRNVPCPRVGRISIVKM AILPK/ILKKKTTLKFIWNQKRA HIAKTILSKKNKAGGITLPDFKL YYKAT/KTAWCWYQNRDTDQ WNRTKPSEI

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4271	34639	A	4312	371	3036	LIAYQPKKVQDQMDSQPNSTR VLEVLARAIRQEKEIKGIQLGK/ EEVKLSMFADDITAYLENPIVS APNLLKLISNFSK/VSGYKINVQ KSQAFLYTNKRQTE\QIMSELPF TVASKRIKYLGIKLRRDVKDLF KENYKPLLNEIKEDTNKWKNIP CSWIGRJNIVKMTILPKVIYRFN AIIKLPMTFFAELEKTTLKFIW NQKRAHIAKTILSQKNKAGGIM LPDFKLYYKATVTKTAWYWY QNRDIDQWNRIEPIPHICKH LIFDKPDKNKKWGKDSL FNKW CWENWLAICRKLHLDPFLTPYT KINSRWIKDLNVRHKTIKTLEE NLGNTIQDIGMGKDFMTKTPK AMATKAKIDKWDLIKLSFCT AKETTIRVNRQPTWEKIFATY SSDKGLISRIYNELKQIYKKKTN NPIKKWAKDMNRHFSKEDIYA AKKHMKKCSSLAIRETLYNDR RIGKLTQTCDETAQPHVCTISR PMLSSPYRSSLTEKWSQDFSKP PYPFLFHKGYNPREQDKEVLT RAIRQEKERKGIQLGKEEVKLS LFADDMIVYLENPIVSAQNPLK VVSNFSKVSGYKISVQKSQAFL YTNNRQTESQIMSELPFTIASKR IKYLRQLTRDVKDLFKENCKP LLNEIEEDTNKWKNIPCSWIGRI NIVKMAILPKVIYRFNAIPIKLP MTFFTVLEKTTLKFIWNQKRAH
4272	34640	B	4313	1	1995	
4273	34641	A	4314	3	549	
4274	34642	A	4315	3	614	EAYGQTECTGGCTFTLPGDWT S\GQFINILEMCLELSPCKSFSAD SARYVLGHVGVPLACNYVKLE DVADMNYFTVNNEGEVCIKGT NVFKGYLKDPEKTQEALDSDG WLHTGDIGRWLPDIENHNRLIV CTLTNTSWRSHKIIVLKTYQKA DDTKTPKETTFQNMNLFLEK RATAVLIRGGVGETSTDLSKKK PAKLLANF
4275	34643	A	4316	1	478	MKLDLHLSPYTKINSRWIKDLN LRPETIKILEDIIRKTLIDIGLGK DFMIKNPKVNATKTKINKWDLI KLK\INFCTAKEISSREIREPTEW EKIFANSASDKGLISRIYKELKQ IRSTLQLLFGISELPASLFLGFGA IMKSKKASLNTSTAILRQLIW



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4276	34644	A	4317	1	1125	MCHGIGAQIIPSHQTVQLDITAF LKT V K K N K H K F Y P A F I H I L A R L M N A H P E F R M A M K D G F I E N M F F V S A N P W V S F T S F D L N V A N M D N F F A P V F T M G K Y Y T Q G D K V L M P L A I G G P L E S P D R D G G P L E S T N R D A S P E S W S C R K S T P R L V A W V S A A K V F I R D K L M E R R N R R T G R T E K A R I W E V T D R T V R T W I G E A V A A A A D G G G F R V D L A R R S I R K D R N A R S Q N P V H T E G D M N M N I K K I V K Q A T V L T F T T A F L A G G A T Q A F A K E N N Q K A Y K E T Y G V S H I T R H D M L Q I P K Q Q N E K Y Q V P Q F D Q S T I K N I E S A K G L D V W D S W P L Q N A D G T V A E Y N G Y H V V F A L A G S P K D A D D T S I Y M F Y Q K V G D N S I D S W K N A G R V F
4277	34645	B	4318	1	1374	
4278	34646	A	4319	1	1293	
4279	34647	A	4320	1	1278	
4280	34648	A	4321	1	1254	M N M N I K K I V K Q A T V L T F T T A L L A G G A T Q A F A K E N N Q K A Y K E T Y G V S H I T R H D M L Q I P K Q Q N E K Y Q V P Q F D Q S T I K N I E S A K G L D V W D S W P L Q N A D G T V A E Y N G Y H V V F A L A G S P K D A D D T S I Y M F Y Q K V G D N S I D S W K N A G R V F K D S D K F D A N D P I L K D Q T Q E W S G S A T F T S D G K I R L F Y T D Y S G K H Y G K Q S L T T A Q V N V S K S D D T L K I N G V N G Y Y C E E S \ L F N K A \ Y Y G G G T N F F R K E S Q K L Q Q S A K K R D A E L A N G A L G I E L N N D Y T L K K V M K P L I T S N T V T D E I E R A N V F K M N G K W Y L F T D S R G S K M T I D G I N S N D I Y M L G Y V S N S L T G P Y K P L N K T G L V L Q M G L D P N D V T F T Y S H F A V P Q A K G N N V V I T S Y M T N R G F F E D K K A T F A P S F L M N I K G N K T S V V K N S I L E Q G Q L T V N
4281	34649	A	4322	1	726	
4282	34650	A	4323	1	1050	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4283	34651	A	4324	1	1185	MNMNIKKIVKQATVLTFTTALL AGGATQAFKENNQKAYKET GVSHITRHDMLQIPKQQNEKY QVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHV VFALAGSPKDADDTSIYMFYQ KVGDNIDSWKNAGRVFKDSD KFDANDPILKDQTQEWSGSATF TSDGKIRLFYTDYSGKHGKQS LTTAQVNVSKSDDTLKINGVED HKTIFDGDGKTYQNVQQFIDEG NYTSGDNHTRLDPHYVEDKGH KYLVEANTGTENGYQGEESLF NKAYYGGGTNFFRKESQKLQ SAKKRDAELANGALGIIELNND YTLKKVMKPLITSN/TVPQAKG NNVVITSYMTNRGFFEDKKATF APSFLMNIKGNKTSVVKNSILE QQQLTVN
4284	34652	B	4325	1	867	
4285	34653	A	4326	1	495	
4286	34654	A	4327	3	1394	GDMNMNIKKIVKQATVLTFTT A/LLAGGATQAFKENNQKAY KETYGVSHTIRHDMLQIPKQQ NEKYQVPQFDQSTIKNIESAKG LDVWDSWPLQNADGTVAEYN GYHVVFALAGSPKDADDTSIY MFYQKVGDNIDSWKNAGRVF KDSKFDANDPILKDQTQEWS GSATFTSDGKIRLFYTDYSGKH YGKQSLTTAQVNVSKSDDTLKI NGVEDHKTIFDGDGKTYQNVQ QFIDEGNYTGDPLEAETAVINH KKRKNSPRIVQSNDLTEAAYSL SRDQKRMLYLFVDQIRKSDGTL QEHGICEIHVAKYAEIFGLTSA EASKDIRQALKSFAGKEVVFYR PEEDAGDEKGYESFPWFIKRAH SPSRGLYSVHINPYLIPFFIGLQN RFTQFRLSETKEITNPYAMRLY ESLCQYRKPDGSGIVSLKIDWII ERYQLPQSYQRTPDFRRRFLQV CVNEING
4287	34655	B	4328	9	1004	
4288	34656	A	4329	1	768	
4289	34657	A	4330	1	1308	
4290	34658	B	4331	58	753	
4291	34659	B	4332	1	409	
4292	34660	B	4333	1	921	
4293	34661	A	4334	1	1026	
4294	34662	B	4335	1	945	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4295	34663	A	4336	1	528	MNMNIKKIVKQATVLTFTTALL AGGATQAFAKENNQKAYKETY GVSHITRHDMLQIPKQQQNEKY QVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHV VFALAGSPKDADDTSIYMFY/Q KDQTQEWSSGATFTSDGKIRLF YTDYSGKHGKQSLDTA\Q*N VKSG
4296	34664	A	4337	1	1701	
4297	34665	B	4338	97	1449	
4298	34666	A	4339	1	1581	
4299	34667	B	4340	1	1539	
4300	34668	A	4341	87	1078	SLPNLDNAAICSSSSPTRTR*SL SEGATQAFAKEKYPHKHTKKR SGVFHITRHDMLQIPKQQQNEK YQVPQFDQSTIKNIESAKALDV WDSWPLQNADGTVAEYNGYH VVFALAGSPKDADDTSIYMFY QKVGDN SIDSWKNAGR VFKDS DKFDANDPILKDQTQEWSSA TFTSDGKIRLFYTDYSGKHGK QSLTTAQVNVSKSDDTLKINGV EDHKTIFDGDGKTYQNVQQFID EGNYTSGDNHTLRDPHYVEDK GHKYRGPLESPSTHQAEPNPTS CVSSLGTLQGFPAPAWLALHP VHPLKHKS GGSNRLSAAIWGIK RKPAR
4301	34669	A	4342	1	1344	
4302	34670	A	4343	1	1713	
4303	34671	A	4344	3	1918	
4304	34672	A	4345	254	1118	RPPAFAKK*PKAYKET/YGVSHI TRHDMLQIPKQQQNEKYQVPQ FDQSTIKNIESAKGLDVWDSWP LQNADGTVAEYNGYHVVFALA GSPKDADDTSIYMFYQKVGDN SIDSWKNAGR VFKDS DKFDAN DPILKDQTQEWSSGATFTSDGK IRLFYTDYSGKHGKQSLTTAQ VNVKSDDTLKINGVEDHKTIF DGDGKTYQNVQQFIDEGNYTS GDNHTLRDPHYVGGTSWEPGV FSVSCVFFGQQEGV/HG*DEFLD FSYWFQGG*ICLYQKAS*QNTT SYKRYTGS

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4305	34673	A	4346	1	1952	MNMNIKKIVKQATVLTFTALL AGGATQAFKENNQKAYKET GVSHITRHDMLQIPKQQQNEKY QVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHV VFALAGSPKDADDTSIYMFYQ KVGDNISWSKNAGR VFKDSD KFDANDPILKDQTQEWSGSATF TSDGKIRLFYTGSLNSSKTEKY QVPHIDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHV VFALAGSPKDADDTSIYMFYQ KVGDNISWSKNAGR VFKDSD KFDANDPILKDQTQEWSGSATF TSDGKIRLFYTDYSGKH YGKQS LTTAQVNVSKSDDLKINGVED HKTIFDGDGKTYQNVQQFIDEG NYTSGDNHTLRDPHYVEDKGH KYL VFQDHTGTEEHPQPQ\ERP RTQSFTSAFAERRECIPNVPADT KLSKIKTLRLATSYIAYLMDLL AKDDQNGEAEAFKAEIKKTDV KEEKRRKELASKCLDLEQLGAS VEPTGNLRTKITKEKPRHTGPPE VVVPGCCPHRSRAYKSDKYAH TLTVTASQHAPPPPTHMEGFEL FHL PDLCSPSQDAQTTGRTQMK PDHSPRPSHRVPQAKGNNVVIT SYM TNRGFFEDKKATFAPSFLM NIKGNKTSVVKNSILEQQQLTV
4306	34674	A	4347	1	1029	
4307	34675	A	4348	276	1248	CVWLGCGRGYYPKAYKET\GV SHITRHDMLQIPKQQQNEKYQV PQFDQSTIKNIESAKGLDVWDS WPLQNADGTVAEYNGYHVVF ALAGSPKDADDTSIYMFYQKV GDNSISWSKNAGR VFKDSDKF DANDPILKDQTQEWSGSATFTS DGKIRLFYTDYSGKH YGKQSLT TAQQLQLVQFQEVDTDFDFPE EDKKEEFEECLEKFFSTGPARPP TKEKVKRRVLI EPGMPLNHIEY CNHEIMGKNVYKHRWVAEH YFLLMQYDELQKICYNEFVPSV IFLRYKSPGEAAGTCHLKQRRW VMPEAAAPVGTGSRYP LTGQL
4308	34676	A	4349	1	242	MNSIQIPKQQQNEKYQVPQFDQ STIKYIESPKELDVWDSWPLQN ADGTVAEYNGYHVAFALAG/S PKDADDTSIYMFYQKI
4309	34677	B	4350	1	2198	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4310	34678	A	4351	1	2796	
4311	34679	A	4352	2047	3531	
4312	34680	A	4353	1	3336	
4313	34681	A	4354	1	1409	MKRAPVIPKHTLNTQPVEDTSL STPAAPMVDSLIARVGVMARG NAITLPVCGRDVKFTLEVLRGD SVEKTSRVWSGNERDQELLTE DALDDLIPSFLTGTQTPAFGR RVSGVIEIADGSRRRKAAALTE SDYRVLVGELDDDEQMAALSRL GGATQAFAKENNQK\AYKET GVSHITRHDMLQIPKQQQNEKY QVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHV VFALAGSPKDADDTSIYMFYQ KVGDNSIDSWKNAGR VFKDSD KFDANDPILKDQTQEWSGSATF TSDGKIRLFYTDYSGKH YGKQS LTTAQVNVSKSDDTLKINGVED HKTIFDGDGKTYQNVQQFIDGY LLEPDGGALQNFQRYTGIQHVH RIGMAERMWCDNRNRHTVSS SGGNRLPNPGPDRSVRHPDPR FLCPSCATVTPHLELIANKYLSG KIGAKKLRKLLIKHVD
4314	34682	A	4355	1	2316	
4315	34683	A	4356	93	924	AQTDAAEKSVSIAQLFQACLSIF SSGDV/AGGATQAFAKENNQK AYKETYG VSHITRHDMLQIPKQ QQNEKYQVPQFDQSTIKNIESA KGLDVWDSWPLQNADGTVAE YNGYHVVFALAGSPKDADDT SIYMFYQKVG DNSIDSWKNAGR VFKDSDKFDANDPILKDQTQE WSGSATFTSDGKIRLFYTDYSG KH YGKQSLTTAQVNVSKSNDT LKINGVGKYKTIFDGDGKTYQT VQQFIDEGNYTSGGHHTL\KDP SYNPPLDLSGGNSGYQSQET

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4316	34684	A	4357	1	3118	MNMNIKKIVKQATVLTFTTALL AGGATQAFAKENNQKAYKET GVSHITRHDMLQIPKQQQNEKY QVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHV VFALAGSPKDADDTSIYMFYQ KVGDNISDSWKNAGR VFKDSD KFDANDPILKDQTQEWSGSATF TSDGKIRLFYTDYSGKH YGKQS LTTAQVNVSKSDDTLKINGVED HKTIFDGDGKTYQNVQQFIDEG NYTSGDNHTLRDPHYVENKG HKYLG FETNTGTENG YQGEESL FNKAYYGGGTNFFRKESQKLQ QSAKKRDAELANGALGIIE LNN DYTLKKVMKPLITSNTVTDEIE RANVFKMNGKWYLFTDSRGSK MTIDGINSNDIYMLGSDESPND FGNRHLHKERLAVYRW HASFI CSGNTMPIVLVDWSDIREQKRL MVLRSVALHGRSVTLYEKAF PLSEQCSKKAHDQFLADLASIL PSNTTPLIVSDAGFKVPWYKSV EKLGWYWLSRVRGKVQYADL GAENWKPI SNLHDMSSSHSKTL GYKRLTKSNPISCQILLYKSRSK GRKNQRSTRTHCHHPSPKIYSA SAKEPWVLATNLPVEIRTPKQL VNIYSKRMQIEETFRDLKSPAY GLGLRHSRTSSSERFDIMLLIAL MLQLTCWLAGVHAQKQ
4317	34685	A	4358	1	1326	
4318	34686	A	4359	2140	4390	
4319	34687	B	4360	1	7271	
4320	34688	A	4361	1	1729	
4321	34689	A	4362	5118	5687	
4322	34690	B	4363	1	4726	
4323	34691	B	4364	1	3688	
4324	34692	A	4365	1	1401	
4325	34693	A	4366	1	1932	
4326	34694	A	4367	1	1407	
4327	34695	A	4368	1	1491	
4328	34696	B	4369	1	855	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4329	34697	A	4370	137	1014	ASEGKQMLRDFVTTRSALKELL KRALNMARNNQYQPLQKHAK L*RPSML*RNCIN*QPGRT/TN KKENFRPISLMNIDAKILNKILA NRIQQHIKKLIHNDQVGFIPGM QGWFNIHKSINIIHHIKRTNDKN HMIISIDAEKAFNKIQPFMLKT LNKLIGDGTYLKIIRAIYDRPTA NVILNGQKLEAFPFGTGRQGC PLSPLLFNIVLKVLRARIRQETEI KGIQLAKEEVKLSLFADDMIVY LENPIISAQNLLKLISNFSK/VSG YKINVQKSQAFLYTINRQTESQI
4330	34698	A	4371	3	1234	
4331	34699	A	4372	1	2850	MGMGPAKPGMGGNLLVCWLQ RPWEKRSIWAIEVYRSSRYSHS WLPLSRKGCDGSGTCRQTLISL TQPLRQWGLEGIKKPNWIISEE SVSNGGPPLLIPRQTASGVDLQ QTPTDLQLRVLTVRRKTNKQK GIASTSTKRTSTPKPHLYVTIHK DQSYIKPQRWGKNIAEKLKILKI RVALSLQRNAAPHQQWNKAG RRMSLMSSQKKASEVIESQMN EIKGEEKFREKRVKRNEQSLQEI WDYVKRPDLRLIGVPD
4332	34700	B	4373	16	701	
4333	34701	B	4374	1	3743	
4334	34702	A	4375	227	686	KVMLAEYPVFAQLTLTPPSSA SWEPSRGPGPRGIRGSCPEWLA SGPGVKAAPGAGVPPPAASFDP PPRLRAPALAVSRGLRRELPSG LDWTHCLRTLPSLIVQILQQA LLGLPPAYSDQLQRAGQLHFYS GLIKISLVLTTRLSFWGTTE
4335	34703	A	4376	216	644	VTYSKEKECEVADSVAKTAL EKDGAPRTGDPRPNLGADPPRS LVSSAGPQAVRPVKPARQFPQ PPRYSQGPAAAGEEGRGMRPP GAGRRLPGPLPGPEASHSGQL PLM/PPGPRLGSQEPVSLSR LQTQARMPGPRP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4336	34704	A	4377	18	1023	QIQHSPLVSLPSLPPQPLVAEE EPPVA/PWPRLLPATSTSH/PSH PLTEPVPPTISGRGCCLTWKRQ QKMCRTTYTSVGRK/CTFPIDS GALRLSDGEMRALQTPTGPQST VEGHTHLQSL/PHHDRVTATPG TEPGLRAAGNRRIFYPGP/VTSQ VQPQLLCGYGNASRTPAALTPG PAPPTQASLPNCGICPHLQMG PTSPC/PPEGGHPSSSLYISLSP PSAPALRLPPPLPSAPTAPAL/P/ PAAPSAPALRLLRPLPCCSFRPR PAAPSAPAPRLLPPLLVCSEFRPC PAAPSAPAGLLLPLLCCSGLSP RLCCPHSSCSDPPRLQRKADSS
4337	34705	B	4378	1	984	
4338	34706	A	4379	332	847	VKLLLQDKEICILCQKTVYPME CLVADKQNFHKSCFRCHHCNS KLSLGNYSALHGQIYCKPHFKP TFQNPKGNYDEGFGHKAHKD RWNWQKPKADSVDFIPNEEPN MCKNIAENTLVPGRNEHLDA GNSEGQRNDRKLGERGKLV IWPPSKEIPKKTLPFEEELKMSK
4339	34707	A	4380	305	505	GNLERMLNLGMVKQKLPALIM KTQVLML*AINVPAKPLFPQSG GAVRTTHGGKSRLKETGATSD TE
4340	34708	A	4381	56	260	IVKTQSIDG/MGNLRITEKGLKL EGDS/EFLQPLYAKEIQSRPGLG TQEQSCQTLSSCSRGGQQQHA
4341	34709	A	4382	137	920	
4342	34710	A	4383	532	1680	LLTTRTSFRSENHRHVGLLLVM TDNTRDKEYFGDESKRENEEKT VEKSIGEKQATLTTHANIITIRH CVKPEPDFSDHLNLLLGRADIT GEEMAAQRSSVEKLANGNIAL VDSLRSRSLEEGSDPHKRLSG AQDIKTVEEVIADVVEIARELE LEVEPEDVTEFLQAHEKTLTDV ELFLINEQIKWFLEMKSTPRED AVIIAETITKVLEYDINLVTKQQ QGMRLTPILKEVLLVWKCHQ TALHATEKPFIKGRINPCGKIHT CLNLRNCGQLLIREEEEEEDKEE EEQYEEKEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEEEDKE DEEEDKEKEEEDNKEEEEEED KEKEEEDKEVEKEDKEEEDK



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4343	34711	A	4384	3	495	EDTGTFRITYESAGAVKKARGF LEFVEDFIQVSKNLIGKVIGKNG KVIQEIVDKSDMVPVRIEGDSE NKLPRDKDDRDSRHQRDSRR CPGGRCRSVSGRRGRGGPRGG KSSISSVPKDPDSNPYSVLDN/T ESDQTADTDASKSHHSTNRHTR SRRRRTDEDAVL
4344	34712	A	4385	1	550	TESERKDELSDWSLAGEDDRDS RHQRDSRRRPGGRGRSVSGGR GRGGPRGGKSSISSVLKDPDSN PYSLLDNTESDQTADTDASESH HSTNRRRRSRRRRTDEDAVLM DGMTESDTASVNENGLAKDV IEEHGPSEKAINGPTASAGDDIS KLQRTPGERKRLLIP*KKENTQE AAVLNGVS
4345	34713	A	4386	1	2063	MAELTVEVRGSNGAFYKGFIK DVHEDSLTVVFENNWQPERQV PFNEVRLPPPDIKKEISEGDEV EVYSRANDQPCGWWLAKVR MMKGEFYVIEYAACDATYNEI VTFERLRPVNQNKTVKKNTFFK CTVDVPEDLREACANENAHKD FKKAVGACRIFYHPETTQLMIL SASEATVKRVNLSMDHLRSIR TKLMLMSRNEEATKHLECTKQ LAAAFHEEFVVREDLMGLAIGT HGSNIQQARKVPGVTAIELDED TGTFRIYGESADAVKKARGFLE FVEDFIQVPRNLVGKVIGKNGK VIQEIVDKSGVVRVRIEGDNEN KLPREDGMVPFVFGTKESIGN VQVLLEYHIAYLKEVEQLRME RLQIDEQLRQIGMGFRPSSTRGP EKEKGYATDESTVSSVQGSRSY SGRGRGRRGPNYTSGYGTNSEL SNPSETESERKDELSDWSLAGE DDRDSRHQRDSRRRPGGRGRS VSGGRGRGGPRGGKSSISSVQY RSNIHNCSTLKRIFLASDMNIVL KDPDSNPYSLLDNTESDQTADT DASESHSTNRRRRSRRRRTDE DAVLMGMTESDTASVNENGL DDSEKKPQRRNRSRRRRFRGQ AE\DRQPAIDFIYKEVEKVSL WQAKDVIEEHGPSEKAINGPTS ASGDDISKLQRTPGEEKINTLKE

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4346	34714	A	4387	1	1882	CGSNMADVTVVEVRGSNGAFYK GFIKDVHEDSLTVVFENNWQPE RQVPFNEVRLPPPPDIKKEISEG DEVEVSRANDQEPGWWLA KVRMMKGEFYVIEYAACDATY NEIVTFERLRPVNQKNTVKKNT FFKCTVDVPEDLREACANENA HKDFKKA VGACRIFYHPETTQL MILSASEATVKRVNLSMDHLR SIRTKLMLMSRNEEATKHLECT KQLAAAFHEEFVREDLMGLA IGTHGSNIQQARKVPGVTAIEL DEDTGTFRIYGESADAVKKAR GFLEFVEDFIQVPRNLVGKVIG KNGKVIQEIVDKSGVVRVRIEG DNENKLPRDGMVPFVFGTK ESIGNVQVLLEYHIAYLKEVEQ LRMERLQIDEQLRQIGSRYSYG RGRGRRGPNYTSGYGTNSELSN PSETESERKDELSDWSLAGEDN RDSRHQRDSRRRPGGGRSVSG GRGRGGPR\GGKSSISSVLKDPD SNPYSLLDNT\ESDQTADTDASE SHHSTNRRRR/SIRRRRTD\EDA VLMNGMTESDTASVNEGLVT VADYISRAESQSRQRNLPRETL AKNKKEMAKDVIEEHGPSEKAI NGPTSASGDDISKLRQTPGEEKI NTLKEENTQEAAVLNGVS
4347	34715	A	4388	2	421	PRVRDSDTEDDSEAEHFESFIHP TAMMFTSTINLLQTLCLSAGVH AEIMQSEATKTLGGL\KSSPNR LVYREQHRSWCTLGFVQSIALT LQVCGALSSLQWITLLMKVVE GHAPFTATSLQRQILAVHLLQA VLPSWDK
4348	34716	A	4389	269	417	DLNCKVGSCFEVYSS*KQGIN*I KLGDSKT*P*LSGPTSENKNS LAE
4349	34717	A	4390	1	516	
4350	34718	C	4391	1	1527	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4351	34719	A	4392	200	1267	TFSKASRGGNPHSMTKAPSDFR KARQTGIPGCSQLGSRYSLEPE QSALRLVCIQKLQESSTTCEDFF CPLCGRAWAVSTPLTDSPPGH QPAVK*LGLVPFSDTHHPLPFQ VLSTDDTSSSSSCSSSCSASSSSP /LLLLLLLFLLLLLLLMLLLKL FLLLLLFLL/RPPASPLLPPALS PPL/HCSSSPSAPPASPPAPPPPP APPPSPPPAPPPSAPSSAPLPPA PASPPFSCSSSSSCSSSCSSSFSSC SSLSSSAQAEGSLRAPRESSPSL DPSAPQVRKVVPQAGSGHRA GGALENRPRGKKPWLHFRPGL RSRLPARSLRSRPAPTRWRLRSS GRFTGAATATATART
4352	34720	A	4393	1	2607	MMGHSSAIPLTATPGELKGQSP TKMPDPELGCGAKSQGCSR ARHQAARSMPLQDQHLALAIL LELA VQRGTL SQMLSAILLLQ LWDSRAQETDNERSAQGTSTL LLSLLQTFQSIICSKDTPPSEGN MHLLSGPLSPSEFLRESFFTQ NCRNNEEVTICKADLENHKN DGGFWIVIDEKVYDIKDFQTQS LTGNSILAQFAGENPVVALEAA FEFEVTRESMHAFVCVGYLEVR LYALSDAEDGRGTL*WLQSSIF SG/GLQTSQIHYSYNEEKDEDH CS/SPVGT PASKSR\CSHRWALG DHSQAFLQAIADNNIQDHNVKT HQQGRSYKEVCTPVIERLRFL SNELRPAVGNDLSIIEFKLLSSL PRWRRIAQKIIERRRKKRIPKKP ESTADEEKIGNEESDLEEACILP HSPINVDKRPIAIKSPKTITSEN LGPSLGSIPQARFLMMLMLT LQHSANNLDLLNSGTLALTQT ALRLIGPSCDNVEEDMNASQ GVSATVLEATRKETAPVHLPVS GPELAATMKIGTRVMRGVDW KWGDQDGPPGLGRVIGELGE DGWIRVQWGTGSTNSYRMGK EGKYDLKLAELPAAAQPSAEDS DTEDDSASPNRLVYREQHRSW CMLGFVRSIALTPQVCGALSSP QWITLLMKVMKGHAPFPAASL QRQRWVAVSLPHALVKSGTVP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4353	34721	A	4394	266	1110	WARGGCARNALASGNAIQGGK CNPGLFPPSPNRLVYREQHRSW CMLGFVRSIALTPQVCGALSSP QWITLLMKVMKGHAPFPAASL QRQLCPE/HTSCPVLKDFCKSVI TDVACSSLISTLLVFWGGLLHT HKEASESWREAKSTSYVAAAR ENEEDAKAEPPTPGIKPSDLVRL IHYQENSMGETAPMIQIISHWV PPTTHGIYGSTIQDEIRVGVSY GHTDARGFQLLLVSGDFSIPYW SLSSAYTSVNSSFVESLQSNLLK GILLPATIMTDPRTTGHQ
4354	34722	A	4395	1	734	MVQLSGKRILNSPYLELRCHQN MDHLGWVIKSLNRSEVSWVP GLEFPWGPKEFREVIAGPLLRN NGQSLESSSLEGSHVGVYFSAH WCPPCRSLTRVLVESYRKIKEA GQNFIEIFVSADRSEESFKQYFS EMPWLA VPYTDEARRSRLNRL YGIQAHFLTANAEDFDTTVQV NKIILITYRQENSLSSSLKTGET EAQGRQLQGSPSNVRGHDPRH AIPLSVNRWNPSKSSPSPAVWS
4355	34723	A	4396	195	1071	LHEFDSSRDLTSGLGGARHRR LGGPSDAPRGLPAPPAPPVRPG /PRSPGPSAGTAR/DAPRPSVQM RAQRPARGSTKDIETCCAAGQ QWAIIDNDECLEIPESGTEDNVC RTAQRHCCVSYLQEKSCMAGV LGAKEGETCGAEDNDSCGISLY KASLTCGLQGRCLNPQQASMG LFSYDVQSSKKINRSIQEKLGG HGVCAATPGGGMNRNCGRLLRS GQRRGGTDRCEAVLTGLFTRA LIREQMGDPHPLDHTGQLAKPL EVEKTPARWKYLDTNGEKEEP ELRTQCPSLYED
4356	34724	A	4397	1	520	MMGEKAIEKPDTEKKKPKAKK ADAGGKRNCRYRSAMYSRKT TSRKKYSAASKVEKKKKFLA TVTKPVGVVDKNSGTQVVKLHK MPRYYPTEVDPLKLLSHG/KKK PFSQHR/RRVVFLKQLV/SGTGP LVLNQVPLRRTHQKFVIATSTKI GSSNVKIAKRLTGAYFKKVWK PKHQE
4357	34725	C	4398	67	243	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4358	34726	A	4399	1	333	QRSCIENILRAC/VGLPPQNHML LEHKMDAKRVGPVAATYPML NKKGPVPAATNGCTGDANGHL QEEPPMPTT*GPGHTVSRLFLPA APHDPTLKAPTNNNSAATQPSKN KKK
4359	34727	A	4400	587	1013	GAASAGRPGPRAPGLWGRGP AAAGASLVPTDHSVLSYNHLG NNDGENLSAP/SQFRSKEVSKS NVVDD/MVQSNPVLYTPGEED HATRCWPHPSAGPSAADRAVP ARPAGAPATEPHAPGTQNGAP GPSLKRVPVAAATYPI
4360	34728	A	4401	2	334	
4361	34729	B	4402	257	975	
4362	34730	A	4403	30	365	EEAETVLVGQLKQLSSCLAVH KYRPETKQEKQRLRLARAEEK AAGKGDVPTKRPPVLRAGVNT VTTLVENKKAQLVCRKMGVP YCIKKGKARLGRVLVHRKTCTTV AFTQVN
4363	34731	C	4404	62	217	
4364	34732	A	4405	2	69	
4365	34733	A	4406	1	951	GTRPKMPKGKKAKGKKVAPAP AVVKKQEGFRKKW*IPWFEKR PKNFGIGQDIQPQRPPPLL*K WPRQYQACSGQRAILYKR\LKV PPAMKPVSPRALD\RQTATQLA *AVAHKVQTRQKQEKQRL\ LARADEEGCLAKGDVPNERDP PVPSSQEFNPVSPPLVKEQEKLL LVVNWHTDV\DPHPSLVCLPC/ LCPAPVS*KMGGPFTCIIQGKRA RLWDRVPQERPCTTCPPFTQV N\SEDKVRLAKAGLEAIQGPIY N*PDTMEIRPSLGVGNVLG\PKS VARIKARNRHKAKETATHTG LNVTLLSFLYYKNN

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4366	34734	A	4407	1	1392	MPDVSEEQKESVCTGSMMREE ESSRKGVRTAGAKSSSSDRVP RLNQEEVESLNRPIITGAIEVAIIN SLPTKKSPAPDGFTAIFYQIRIRI QQPIRIQQPIKKLIQHDKVGFI GMQGWFNICKSINVQHINRTK EKNHMIISIDAEKPFDKIQQCFM LKTNLKLGIDGTYLKIIIRAIYHK PTANIILNGQKLEAFPLKTGTRQ GCPLSPLLFNIVLEVLAIRQE KEIKGIQLGKEEVKLSLFADDM IYLENPTVSAQNLLKLISNFSK VSGYKINVQKSQAFLYTNNRQ TESQIMSELPFTIASKRIKHLGIQ LTRDVKDLFKENYKPLLNEIKE DTKKWKNIPCSWAGRISIMKM AILPKVIYRFNAIPIKLPMTFFTE LEKTTLKFIHQKRAHIAKSILS QKNKAGGITLPDFKLYYKATV TKTAWYWYQNRDIDQCTRTQP SEITPHIYNLIF
4367	34735	A	4408	1	1947	MALRRLSHDVSGALLANGES TGNSGGSSGSSPSGGATSGSSQ TSISGDVVEACCSVLMSVCA VYKVYVAALQCMMLLVTL SHFTRMRRLM/AYADEVEIAE AIQLGVEDTLGQQDSFCRHL FPTTIWKPQRTVP/LECTIHLEKT GKGLCATKLSASSEDISERLASI SVGPSSSTTTTTTEQPKPMVQ TKGRPHSQCLNSSPLSHHSQ FPALSTPSSSTPSVPAGTATDVS KHRLQGFIPCRIPASPTQQRKF SLQFHRNCPENKDSKLSPVFT QSRPLPSSNIHRPKSRPTPGNTS KQGDPSKNSMTLDLNSSSKCD DSFGCSSNSS/NCCYTSD PVEEKCRDLVNTLNSSIEDLLE ASMPSSDTTVTFKSEVAVLSPE KAENDDTYKDDVNHQKCKE KMEAEAEALAIAMAMSASQD ALPIVPQLQVENGEDIIIIQ TFRHIIPPIQWIYKESANLLID STGQRLRIADFGAAARLASKGT GAGEFQGQLGTIAFMAPEVLR GQQYGRSCDVWSVGCALH CAKPPWNAEKHSNHLALIFKKL LDFANTACDGDKESEVEDVET DSGNPDLRKEIMIGLQYQAEI PPYLGEYDGNKDSPPQPKMT GVQNAKEVLST

SEQ ID NO:	SEQ ID NO: of peptide sequence	Met hod	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4368	34736	A	4409	1	4485	
4369	34737	A	4410	2	927	IDHMIGHKASLNKFKKIEISSTL SGHNGIKLEINSKRDLQNHANT RK\LNLLNEHWVKNEIKMEI LKFFELNDHNDTTYQNLWDTA KATFLLRGKFTALNAYIKKTER AQTDILRSHVKELEKQEQT KPK PSRRKEITKIREELNEMETNKK KIQKINETKSRRFEQINKIDRSLA RLAKKRREKIQITSIRNKTGDTT TDTTEIQKIIQGYEHLIAHKL NLEEMDKFLEKYNPPSLNQEEL DTLNRITISNKIEMVIKKLP TKK KSPGPNGFTAIFYQTFK\EELVP ILSILVHKTEKEGTLP
4370	34738	A	4411	405	517	
4371	34739	A	4412	1	1197	MEISELNAKLRSQEKEKQNEIHK LQLEKLQHFQEEKNKEIAILRN TIRDLEQRLSVGKDSHLKRENE QLKISADLIKEKLSHEQEYKN NIAKLVSEMKIKEEGYKKEISK LYQDMQRKGRIKVTCEWTCSE RKTEGREPGVPREPTGRSQSAE NEGSKTLAEINTKGTQSPAERIN KIDRLLARLTNKRREKVQISSIR NKTGDIRTDTTEKQKFMQGYH EHLVMHKLNLKEMDKFLEIY SPRLKREDIETLSRPITISDIEM KNLKIPPKLP LINKFSKVSR YK INVHKLVALLYANSQTDNQIK NSTHTIVAKKIYLG IYLT KDM KDLHKENSK/PLLKEIIDDITIKW KHIPCSWMSTTNIVKMTILPKTI YKFNAIIHKIPPSFFAERKKQS
4372	34740	A	4413	1	190	MIQRKRASIGAPCAWVRKKEE EEEEEEEEEEEEEEEEEEEE\K KKKKKKKERTTWLWGNPLT
4373	34741	A	4414	303	429	
4374	34742	A	4415	123	252	
4375	34743	A	4416	1	156	
4376	34744	A	4417	3	351	EEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEEEEEEEEE EEEE\KEEEEEEEEEEEEEEE LGRLHGGSGKVRGLGFTENQQ GSTNRQHQRDNRSKQKKIN NTKPEATESLIVNGITITAPA
4377	34745	A	4418	1	192	
4378	34746	A	4419	3	259	
4379	34747	A	4420	1	279	
4380	34748	B	4421	1	708	
4381	34749	A	4422	3	269	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4382	34750	A	4423	1	322	MAGKQGRSEGASSWRLSSVLQ LNSQYFLQGAQQCTFLAATAW KKRKEEEEEEEEEEEEEEEEEEE EEEEEEEEEEEEKKKKKKKKK KKKKKKKKKKKKKKKKKKKKK KKKKKKKKKKKKKKKKKKKKK KKKKKKKENPFSCF
4383	34751	B	4424	327	674	
4384	34752	A	4425	494	960	TRFYDHALHLIHRKGSTTVRSP PPLYFIGESKASALLAISLRWSG RSQPRSSVNQIRKAWGFRPRKG TEE/DERSGCPSDALESDDPMA YIHFTAEGEVTFKSILFVPTSAP RGLFDEYGSKKSDYIKLYVRRV FITDDFHDMMPKYLNFBVKGVV
4385	34753	A	4426	1	2539	VGGPRGWRCEDPNPGVGGGGG SCDRRGLETHRPHAMRALWVL GLCCVLLTFGSVRADDEVDDV GTVEEDLGKSREGSRTDDEVV QREEEAIQLDGLNASQIRELRE KSEKFAFQAEVNRMMKLIINSL YKNKEIFLRELISNASDALDKIR LISLTDENALSGNEELTVKIKCD KEKNLLHVTDGTGVGMTREELV KNLGTIAKSGTSEFLNKMTEAQ EDGQSTSELIGQFGVGFYSAFL VADK VIVTSKHNDTQHIWES DSNEFSVIADPRGNTLGRGTTIT LVLKEEASDYLELDTIKNLVKK YSQFINFPIYVWSSKTETVEEPM EEEEAAKEEKEESDDEAAVEEE EEEKKPKTKKVEKTVWDWEL MNDIKPIWQRPSKEVEEYKA FYKSFSKESDDPMAYIHFTAEG EVTFK\SILFVPTSAPRGLFD\DY GSKK\SDYIKLYVRR\VFITD\DF HDMMPKYLNFBVKGVVDSDDL PLNVSRETQQHKLLKVRKKL VP*NRWDMIKKI/SLDDKYNDT FW\KEFGYQHSSLVVIIEGPLRIR TRLAKLLR\FQSSHPTD\ITSLD QYVERMKEKQDKIYFMAGSSK KEAESSPFVERLLKKGYEVIYL TEPVDEYCIQALPEFDGKRFGN VAKEGVKFDESEKTKESREAVE KEFEPLLNWMKDKALKDKIEK AVVSQRLTESPCALVASQYGW



SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4386	34754	A	4427	2	622	PARAALGILTSHQSGFLKTSTSK ITSTAWKNKDITMQSTKQYAC LHDLTNKGIGEEIDNEHPWTKP VSENFTSPYVWMLDAEDLA DIEDTVEWRHRNVESLCVMET ASNFSCSTSGCFSKDIVG\LRTS\ ACWQQHCASPAFAYCG\HSFCC TGTALRTMSSLPESSAMW*KKP ARTRLPRGKDLIYFGSEKSDQE TGTL LLPVSS
4387	34755	A	4428	2	1421	QHCSQKDTAELLRGLSLWNHA EERQKFFKYSVDEKSDKEAEVS EHSTGITHLPPEVMLSIFSYLNP QELCRCSQVSMKWSQLTKTGS LWKHLYPVHWARGDWYSGPA TELADTEPDDEWVKNRKDESR AFHEWDEDADIDEESESAEESI AISIAQMEKRL LHGLIHNVLPY VGTSVKTLVLAYSSAVSSKMV RQILELCPNLEHLDLTQTDISDS AFDSWSWLGCCQSLRHLDLSG CEKITDVALEKISRALGNSGHL HQSGFLKTSTSKITSTAWKNKD ITMQSTKQYACLHDLTNKGIGE EIDNEHPWTKPVSENFTSPYV WMLDAEDLADIEDTVEWRHR NVESLCVMETASNFSCSTSGCF NHRPWSQNEYEQLNYAKQLKE RLEAFTRDFLPHMKEEEEVFQP MLMEYFTYEELKDIKKKVIAQ HCSQKDTAELLRGLSLWNHAE ERQKFFKYSVDEKSDKEAEVS
4388	34756	B	4429	70	348	
4389	34757	A	4430	2	371	
4390	34758	A	4431	1	907	MGHRINIVCKIDAPCARQTRTF HPVVKTVEDCGRYPSVIEFGKY EIQTWYSSYPQEYARNLAKEG KMGEREMSFVQQLQPMGRCS LFRELSSCTYLLNTQPP/AVSIH FLAVWILLVDGNMSKIYCQNL CLLAKLFLDHKTLTYDVEPFLF YVLTKNDEKGCHLVGYFSKWT VLQGGWQVQGIAHFSRALTYLI CFSFPQEKLCQQKYNVSCIMIM PQHQRQGFRFLIDFISFRLTIG ASFTQLRKQSMSNSTEIPLLGD NGKSSPTFWQSLTSSPNAHFS LEAQLSILGHLFQSP

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4391	34759	A	4432	1	3468	MGKKQNRKTGNSKNQSASPP KERSSSPATEQSWMENDFDEL EEGFRLSNYSELPEDIQTGKE VENFEKNLEECITRITNKRNF TKIKRDKEGHYIMVKGSIQEE LTILNIYAPTGA PRFIKQVLS QRDLDFHTLIMGDFNTPLSTL RSTRQKVNKDTQELNSALHQA DLIDIYRTLHKSSTEYRFFSAPH HTYSKIDHLLGSKAFLSKCKRT EIITNYLSDHSAIKLELRINKLT NRSTTWKLNN
4392	34760	A	4433	3	1900	FNKCMTLKFRLKNFSRINKIDTP LARLIKKKREKNRIDTIKNDKG DITSNPTEIQSTIREYYKHLYTN KLENLEEMDKFLDTYTLPRLNQ EEVESLNRPTGSEIMAINSLPT KKSPGPDGFTAKFYQRYKEELV PFLKLFQSIEKEGILPNSFYEAS IILIPKPGRDTTKNENFRPISLMN IDAKILNKILANRIQQHIKKLIH HDQVGFIPGMQGWFNIRKSINV IQHISRTKDKNHMIISIDA EKAF DKIQQPFMLKTLNKLGIKYLGI QLTRDVKDLFKERS/YEPLLNEI KEDTNKWKNI PCSWVGRINIVK MAILPKVIYRFNAIPIKLPMTEF TELEKTTLKFIWNQKRALIAKSI LSQKNKAGGITLPDFKLYYKAT VTKTAWYWYQNRDIDQWNRT EPSEITLHIYNYLIFDKPEKNKQ WGKDSL FNKWCWENWLAICR KLKLDPFLTPYTKINSRWIKDL NVRPKTIKTLEENLGITIQDIGM GKDYMSKTPKAMATKAKIDK WDLIKLSFCTAKETTIRVNRQ PTKWEKIFATYSSDKGLISRIYN ELKQIYKKKTNNPIKKWVKDM NRHFSKEDIYAAKKHMKKCSP SLAIREMQIKTTMRYHLTPVRM AIIKKSGNN
4393	34761	A	4434	2	1932	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4394	34762	A	4435	I	2571	MKAEIKMFFETNENKDTIYQN LWNTFKAMCRGKFIALNAHKR KQERSNTDTLTSQKELKKQEQ THSKPSRRQEITKIRAEMKEIET QKTLQKIKESRTWFFEKINKIDR LLARLTKKKREKNQIDAINKDK GDITTDPTIEIQTIREYKHYLA NKLENLEEMDKFLDTYTLPRLN QEEVESLNRPTGSEIEAIINSLP T/KKCPGPDGFTAIFYRRKRGV LPNSFYEASIIIPKPGTDTTKKE NFRPISLMNIDVKILNKILANRI QQHIKKLIHHDQVGFIQMGQ WFNIRKSINIIQHINRAKDKNH MIISIDAEKAFDKIQCFMLKTL NKLIGDGYLKIIRAIYDKPTAN IILNGQKLEVFPLKTGTROGCPL SPLLFNIVLEVLAIRAEKEIK GIQLGNEEVKLSLFADDMIVYL ENPIISAPNLLKLNNFSKGSAY KIKVQKSQAFLYTNNRQTESQI MSELPFTIASKRIKYLGIQLTRD VKDLFKENYKPLLKEIKEDTNK WKNIPCSWVGRINIMKMAILPK VIYRFNAILIKLPMTFFTELEKST LKFIWNQKRARIAKSILSQKNK AGGITLPDFKLYYKATVTKTA WYWYQNRDIDQWNGTEPSEIM PHIYNYLIFDKPEKNKQWGKDS LFNKWCWENWLAICRKLKLDLP FLTPYTKINSRWIKDLHVRPKTI KTLENLGNTIQDIGMGKDFMSK

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4395	34763	A	4436	1	1965	MTLESEQTFVYAVTATQTGAK EGTRMSKSNVAGQQGDSGEKA LQKTYQKILREKESALEAKYQA MERAATFEHDRDKVKRQFKIF RETKENEIQDLLRAKRELESKL QRLQAQGIQVFDPGESDSDNC TDVTAAGTQCEYWTGGALGSE PSIGSMIQLQQSFRGPEFAHSSID VEGPFANVNRDDWDIAVASLL QVTPLFSHSLWSNTVRCYLIYT DETQPEMDLFLKDYSPLKRM CETMGYFFHAVYFPIDVENQYL TVRKWEIEKSSLVILFIHLTPRI KYLGIQLTRDVKDLFKENYKPL LNEIKEDTNKWKNILCSWTGR NNVMKMATLPKVIYRFNAIPIK LPMTFFTELEKTTLKFIWNQKR AHIAKTILSEKNKAGGIMLPDF KLYFKATVTKAAWYWCQNRD IDQWNRTEASEITPHIYNHLIFD KPDKNKKWGKDSL FNKWCWE NWLAI CRKLKLD PFLTPYTKIN SRWIKDLNVRPKTIKTLEENLG NAIQDIGMGKDFMTKTPKAMA TKAKIDK WDLIKLSFCMAKET PIGVNRQLTEWEKIFAIYPSDKG LISRIYKELKQTYKKKTNNPIEK LAKEMNRHLSKEDIYAANRHK KKCSSSLVIREMQIKTT/MRYHL TPVRMAIIKKSGNNRCWRGCG
4396	34764	A	4437	300	476	PDLSLWLPLTFFPSQLW*I*QL CVLELLFSRSIFVAFSVFPEFES WPALLGWGSSPG

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4397	34765	A	4438	413	1689	QKLYKPERIKYLGQLTRDVKD LFKENY/KLNEIKEDTNKRKNIP CSWVGRINILKMAILQKVIYRF NAPIELPITFFTKLEKTTLRFIW NKKRVHIAKSIPSKKNKAGGIM LPDFKLYYKATITKTAWYLYQ NRDIDQWNRTEALGITPHIYNH LIFDKPDKNKQRGKDSL FNKW CWENWLVICRKLKLD AFLT PY TKINSRWIKDLNIRPKTIK TLEE NLGNTIQGIGMGKDFMTKTPK AMATKAKIDKRDILKLSFCTA KETNIRVNRQPIEWEIFAIYRS DKGLISRIYKELKQIYKKKTNN SIKKWAKDMNRHFSKEDIYAA NRHEKKWSPSLVTREMQIKTIM RYHLPVRIMTIKMSGNNRCW RGYGEIGMLLHCWWECKLVQ ALWKT VWRFLKDLELEIPFDPV IPLLG IY PKDYT
4398	34766	A	4439	3	2404	
4399	34767	A	4440	1	1572	MLVSFVSLGSLCLQPGSQTLLE KNRTVKPHVSFTLLPALSHVSE KNEAESMNSLIPPPNLHTPAQ APFPLPTKEQDRSSSPATEQSW TENDFDELTEVGFRRSVITNSSK LKEDVRTHC KEAKNLEKRLHE WLTRINSVEKTLNDLKLKSMA RELHDTCTSFNSRFDQVEERVS AIEDQTNEINNGENGTKLENTL QDIIQENFPNLARQANIQIQEIRR TPQRYSSRKATPRHIIVRFTKVE MKEKVLRAAREKVLEVLARAI SQEKEIKCTQLGKEEVKLSLFA DDMIVCLENPVVSDHNVLKLIS NFSKVS VYKINVQKSHAFLYTN NRQTESQIMSELPFTITTKRIKY LGQLTRA VKDFFKEKYKPLL N EIKKDTNKWKNIPCSCIGRINIM KMAIVPKVIYGFNAIPIKLPRTF FTELEKTTLKFIWKKKGAKTILS IKNKAGGIMLPDFKLYYKATVT KIAWYWYQNR YINQRNRTETS EITSHIYNHL/IFDKPDKNKKWG KDSL FNKWCWENWL
4400	34768	B	4441	1	1558	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4401	34769	A	4442	837	4329	TWKGTTDRSTRQKVNKDTQEL NSALHQADLIDYRTLHPKSTE YTFF/LAPHHTYSKIDHIVGSKA LLSKCKRTEIITNYLSDHSAIKL ELRIKNFTQSRSTTWKLNLLLL NDYWVHNEMNAEIKMFFETNE NKDTTYQNLWDAFKA VCRGK FIALNAHKRKQERSKIDTLTSQ KELEKQEQTHSKASRRQEITKIR AELKEIETQKTLQKINESRSWFF ERITKSDRPLARLIKKKREKNQI DTIKNDKGDIT
4402	34770	A	4443	1	816	MRRDYPVKAFTSRKREQHVQK VPSKKSQVQRTERRFLETPD LLYQKEKDLLISSSKKQPRPGI ERHYMMTQGSIHQEDVAILK/V YTSNKRASKYIQQ/TLLEIKGKI/ AHPQIVGDFNTPTSTIDRTIRQQI SIEFYDTIKQWDLTDCRTGHPI TEYIFCSGAHLTFTKINHIQGP RILKRFRKRIEIECVLVKGCQA KNRKKEEDLQTYWMLNIYGPH YRSGSYAAIHRQETICSGQLSQ ALRDRFAMNAKLLLSLAHLW VIKLDPM
4403	34771	A	4444	87	307	
4404	34772	A	4445	1	534	MEESRGAKPPPALLPGDATLPP GSLGSARHPPEP/RPVPGP/PPHQ TCPGPSACSSRRPEPRSSPGSPA RAPPAPPPAAPAPRCEPPLWLL LRVPCPGRSGWSWMTT*I/SERP VQKRARSGPQRLPPCLLPLSPP TAPDRATAVATPPVLGPMSSW SPRRAGGPTRPCTALQALSIPA
4405	34773	A	4446	164	660	YPSGRRLREPADVADAWDGME ESRGAKPPPALLPGDATLPPAP SGQLGTRPSPSSRPSPHQTC PGPSACSSRRPEPRSSPGSPAR APPAPPPAAPRA/SPRRPLPAPRS ASVPAFSAPPSQWPEVGSPCA LRRAMPRGPGPPPEPRLVAEPG EDAAPTAGR
4406	34774	A	4447	1	417	

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4407	34775	A	4448	1	1802	MSYPADDYESEAAYDPYAYPS DYDMHTGDPKQDLAYERQYE QQTYQVIPEVIKNFIQYFHKTVS DLIDQKVYELQASRVSSDVIDQ KVYEIQDIYENSWTKLTERFFK NTPWPEAEAIAPQVGNDVFLI LYKELYRHIYAKVSGGPSLEQ RFESYYNYCNLFNYILNADGPA PLELPNQWLWDIIDEFIYQFQSF SQYRCKTAKKSEEEIDFLRSNP KIWNVHSLNVLHSLVDKSNIN RQLEVYTSGGDPESVAGEYGR HSLYKMLGYFSLVGLLRLLHSL GDYYQAIKVLENIELNKKSMYS RVPECQVTYYYYVGFAYLMMR RYQDAIRVFANILLYIQRKSM FQRTTYKYEMINKQNEQMHAL LAIALTMYPMRIDESIHLQLREK YG\DKMLRMQKGDPOVYEELF SYSCPFLASPVPNYDNVHPN YHKE\PFLQ\QLKGVF**SSSQ AQLS/TPIRSFLKLYT\TMPVAK LAGFPGPSQSQEFRIPIGFFVFKQ QDERTSVWTQRVFSAPGW*NF SQASEVDFY\NDKDM\HIADTK VA\RRYG\DFIRQ\HKF\EELNR TLKEGWGQRPWMIFHTHFRE GFECIIGQGSVFC

SEQ ID NO:	SEQ ID NO: of peptide sequence	Method	SEQ ID NO: in USSN 09/540,217	Nucleotide location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion)
4408	34776	A	4449	1	1722	MNIKAKILNKILANRIQQHIKKL IHHDHVSFIPRMQGWFNHKKPIN VIHHINRTNDKNHMIISIDA EKA FDKIQHPFTLKTNLKDDMTVY LENPIVSAQNLLKLISNFSKVSG YKINVQKSQAFLYTNNRQTESQ IMSELPFTIASKRIKYLGIQLTRD VKDLFKENYKPLLKEIKEDTNK WKNIPCSWVGRINVVKMAILP KVIYRFNAIPIKLPMTFFTELEK TTLKFIWNQKRARIAKSILSQK NKAGGITLPDFKLYYKATVTKT AWYWYQNRDIDQWNRTEPSEI MPHIYNHLTFDKPDKNKQWGK DSL FNKWCWENWLAICRKLKL DPFLTPYTKINSRWIKDLNVRP KTIKTLEENLGNTVQDIGMCKD FMTKTPKAMATKAKIDKWDLI KLKSFCTSKETIIRVNRQPTWE KMFAIYPSDEGLISRICKE/LFKQ IYKKKNHPIKKWAKDMNRHFS KEDIYVANKHMKKSLSSLVIRE MQIKTTMRHHLTPVRMTIHKKS GNNRFWRGCGETGMLLHCWW ECKLVQPL*KIVW*FLKDLESEI PSDSAIPLGGIHPKAYKSFY
4409	34777	A	4450	1050	1147	PGEWHGQGSRCWR*PLPQRC GHLLSCRWRTP
4410	34778	A	4451	1	614	MEELVDEGLVKALGVSNFSHF QIEKLLNKPGLKYKPVNTQNSL GTMQNRAGFPRDEDCLLQVE CHPYLTQEKLQYCHSKGITVT AYSPLGSPDRPWAKPEDPSLLE DPKIKEIAAKHKKTAAQVLIRF HIQRNVIVIPKSVTPARIVENIQN TEHYKYCGLCVGNLEKNLYP VDRM/WKNSCGQFVL*ISSHLE DYPFNAEY
4411	34779	A	4452	2	240	WMELESLSHFQIEKLLN/KPGL KYKPVNTQVNSIQFKGSILEEGI VNMGDDSSMHVSAPEDPPVGQ DVEAEDSDTDDPDVP
4412	34780	A	4453	1	1019	
4413	34781	A	4454	1	2028	